

TUBERCULOSIS PROGRAMME - COLLABORATIVE RESEARCH PROJECT

NON-GOVERNMENTAL ORGANISATIONS IN TUBERCULOSIS CONTROL  
A STUDY IN WESTERN INDIA

Sheela Rangan  
Aditi Iyer  
Sushma Jhaveri

THE FOUNDATION FOR RESEARCH IN COMMUNITY HEALTH, BOMBAY  
1994

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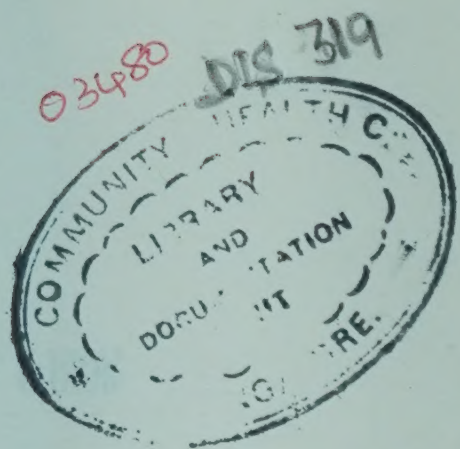
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## PREFACE

With the global realisation of the need to re-examine approaches to tuberculosis control, several countries have undertaken to revitalise their existing National Tuberculosis Programmes. The focus of these revitalised programmes is detection of at least 70% of the incident cases and ensuring cure of 85% of the detected cases. Definite plans are also underway to involve the non governmental sector - the voluntary sector and the for-profit private sector - in these revitalised programmes.

Though the involvement of these non governmental sectors in diagnosis and treatment of tuberculosis cases is well known and acknowledged, there have been hardly any organised efforts to understand the extent and nature of their role in tuberculosis control, so far. The Foundation for Research in Community Health, Bombay, which has been involved in studying various aspects of tuberculosis control, was therefore directed to undertake such a study by the World Health Organisation, Geneva.

The study was restricted to Western India and included two of the largest states - Maharashtra and Gujarat. Since no ready lists of organisations involved in tuberculosis control was available, a survey was initially undertaken using a mailed questionnaire to understand the number and nature of NGOs and their approaches to tuberculosis control. The outcome of this survey is a directory of NGOs in the two states giving their profiles. In the second phase, case studies of a few selected NGOs in the two states were undertaken, in order to understand NGO programmes better and assess their effectiveness. Based on these, detailed case reports were prepared. The report attempts to identify both the strengths and weaknesses of NGO-run TB programmes. It may be regarded as a preliminary step providing an appreciation of the current role of NGOs in tuberculosis control and their interactions with the NTP. Hopefully, this would lead to state TB programmes taking relevant cues from NGOs to improve their performance, and providing appropriate inputs to them to enhance their effectiveness further.



## ACKNOWLEDGEMENTS

We gratefully acknowledge the financial support of the World Health Organisation, Geneva which has made this study possible.

We take this opportunity to specially thank Dr. M.W. Uplekar, who has guided, advised and supported this project at all stages - right from conceptualising the study through every step of implementation. And for tirelessly editing and re-editing reams of drafts culminating in this final report.

Thanks are also due to a number of persons for their invaluable contributions to the project;

Colleagues at FRCH, especially Shrinivas Indapurkar and Sanjay Juvekar who accompanied us and helped with data collection in Maharashtra and Gujarat; Sunil Nandraj and Alex George who made useful suggestions on the initial drafts of the questionnaire; Gauttam Jadhav and Vaishali Vaidya who translated the questionnaire into Marathi; Lalitha D'Souza and Sonya Gill who were our sounding boards; and Shashikant More, Pramod More, Maria Pinto, and Sunita Vichare for administrative support.

The staff of all the NGOs visited, who willingly shared their insights and experiences with us, especially Dr. Dholakia and Dr. Mavalankar who helped us with pilot testing of the questionnaire.

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And Dr. N.H. Antia, who has always been a source of inspiration for all of us at FRCH.



## GLOSSARY

AKT	-	Anti-Kochs Treatment
ANM	-	Auxiliary Nurse Midwife
ATC	-	Area Tuberculosis Centre
AWW	-	Anganwadi Worker
BTC	-	Book of Treatment Cards
CHV	-	Community Health Volunteer
CHW	-	Community Health Worker
COPT	-	Completed Optimum Period of Treatment
DTC	-	District Tuberculosis Centre
DTO	-	District Tuberculosis Officer
DTP	-	District Tuberculosis Programme
EP	-	Extra Pulmonary
GP	-	General Practitioner
HIV	-	Human Immuno-deficiency Virus
ICDS	-	Integrated Child Development Services
MPW	-	Multi purpose Worker
MO	-	Medical Officer
MS	-	Medical Superintendent
NGO	-	Non Governmental Organisation
NTP	-	National Tuberculosis Programme
OPD	-	Out-Patient Department
PHC	-	Primary Health Centre
RH	-	Rural Hospital
SC	-	Sub-centre
SCC	-	Short Course Chemotherapy
SR	-	Standard Regimen
TB	-	Tuberculosis
VHW	-	Village Health Worker



## INTRODUCTION

The renewed global interest in tuberculosis(TB) in the wake of emergence of Human Immuno-deficiency Virus(HIV) has lead to a re-examination and refinement of current approaches to tuberculosis control by international and national organisations. The largest reservoirs of both HIV and TB - Sub Saharan Africa and Asia -not surprisingly, form the focus of attention. In the absence of availability, yet, of a cure for HIV or a vaccine against TB, early detection and optimum treatment of cases of tuberculosis continue to be the only measures National Tuberculosis Programmes(NTP) can undertake. Though, detection of at least 70% of the incident cases and ensuring cure of 85% of the detected cases, are expected to favourably alter the situation of tuberculosis worldwide.

India ranks highest among the nations contributing to the global burden of tuberculosis.. Despite its sound design, the performance of the NTP of India has been poor. This is chiefly due to the low priority accorded nationally to the programme implemented exclusively by, and through the public health service, which itself has a low image in people's minds. Although a much larger number of cases of tuberculosis, than those availing the services of the public sector, seek help from non governmental sources - the private doctors and the voluntary organisations - there have not been any organised efforts to involve either of these in the NTP activities. The for-profit private sector is not involved at all, and the participation of non governmental organisations(NGOs) is restricted to grant-in-aid for running TB hospitals and supply of anti-TB drugs.

The NGOs in health care in general, have a long history and presence in India. NGOs have often been accorded recognition for their ability to operationalise health programmes effectively and achieve good results in shorter periods. While there is some documentation of their approaches and effectiveness in providing health care, few reports have dealt with their contribution to tuberculosis control.

The magnitude of the problem of tuberculosis in India is such that only a concerted effort led by the public health services in active collaboration with the non governmental health care providers is likely to produce desirable results. It is therefore essential to



understand the approaches of NGOs to, and their present role and potential in, controlling tuberculosis. Insights into these could help to identify, both, the inputs NGOs could provide to improve the performance of the NTP, as well as those which they need themselves to enhance their own capacities to deal with the problem. Also, it is hoped that sharing of experiences among the NGOs, and between the NGOs and the NTP, could be mutually beneficial and lead to strengthening of national efforts to control tuberculosis.

The present study was undertaken with this precise intention of understanding the current role of NGOs in tuberculosis control and assessing their performance. The stated objectives of the study are -

- (1) To survey all NGOs active in tuberculosis control in Maharashtra and Gujarat and to document the approaches adopted by them; and
- (2) To study their functioning and identify ways to enhance their contribution to strengthening the NTP.

The two largest and most progressive states in Western India - Maharashtra and Gujarat - which also show a concentration of NGOs, formed the location for the study.



## METHOD

Ready made lists of NGOs working in TB were not available for either of the states. From various available sources, a comprehensive list of all the NGOs engaged in health related activities was made (Appendix 1). To be able to construct profiles of individual NGOs, a questionnaire was prepared (Appendix 3). This was mailed to all the NGOs in Gujarat. Since Maharashtra had a very large number of NGOs working in health, a reply-paid post card was first sent to all, requesting them to indicate if they undertook any TB related activity (Appendix 2). All the respondents and, a few organisations failing to respond but known to conduct TB related work, were sent the questionnaire. Responses to the questionnaire were compiled, computerised and analysed.

On processing and scanning through the responses of NGOs, three broad categories emerged -

- \* NGOs with a very significant TB component within their programmes (category 1),
- \* NGOs having well-defined TB activities, but not as prominent as among those in the first category (category 2), and
- \* NGOs having anti-TB activities incidental to an existing medical component (category 3).

For conducting the in-depth studies, with a view to understand their functioning, 13 organisations were selected purposively giving due consideration to the above categories and also to their geographical location, the quantum of anti-TB work, and the character of the NGO, chiefly with regard to the focus of activities - community based, clinic based, and hospital based.

The tools of data collection were interview guides, observation check-lists and field notes. Interviews with the programmes managers, health functionaries and patients, were also undertaken (Appendix 4). Cohort analyses were undertaken wherever treatment cards of patients or detailed treatment records were available.

Records on the performance of the NGOs in terms of case finding and case holding were obtained from the state TB directorates. In



Gujarat, budget allocations for grants given to 13 NGOs offering TB beds were also available. Similar reports were not available for Maharashtra since there were no NGOs receiving grants from the state government.



## RESULTS

### PHASE ONE

The response rate to the post cards in Maharashtra was 43%. Two-hundred and eighteen NGOs were identified as the ones undertaking TB activities. The questionnaires were sent to these 218 and an additional 36 NGOs known to be involved in TB control. The response to the questionnaire was 40%. It was interesting to note that 23 of the responders in the first round negated their earlier response and denied conducting TB activities. A total of 77 NGOs were thus identified (Flow Chart 1).

In Gujarat, out of the 307 NGOs to whom questionnaires were sent, 103 responded. Out of these, 57 reported that they were offering tuberculosis-related services (Flow Chart 2).

### *Location / Geographical Distribution*

An analysis of the information obtained from the profile building exercise through mailed questionnaires reveals an uneven distribution of NGOs. Thirty-four percent in Maharashtra and 9% in Gujarat showed an urban location of both project office as well as field area (Table 1).

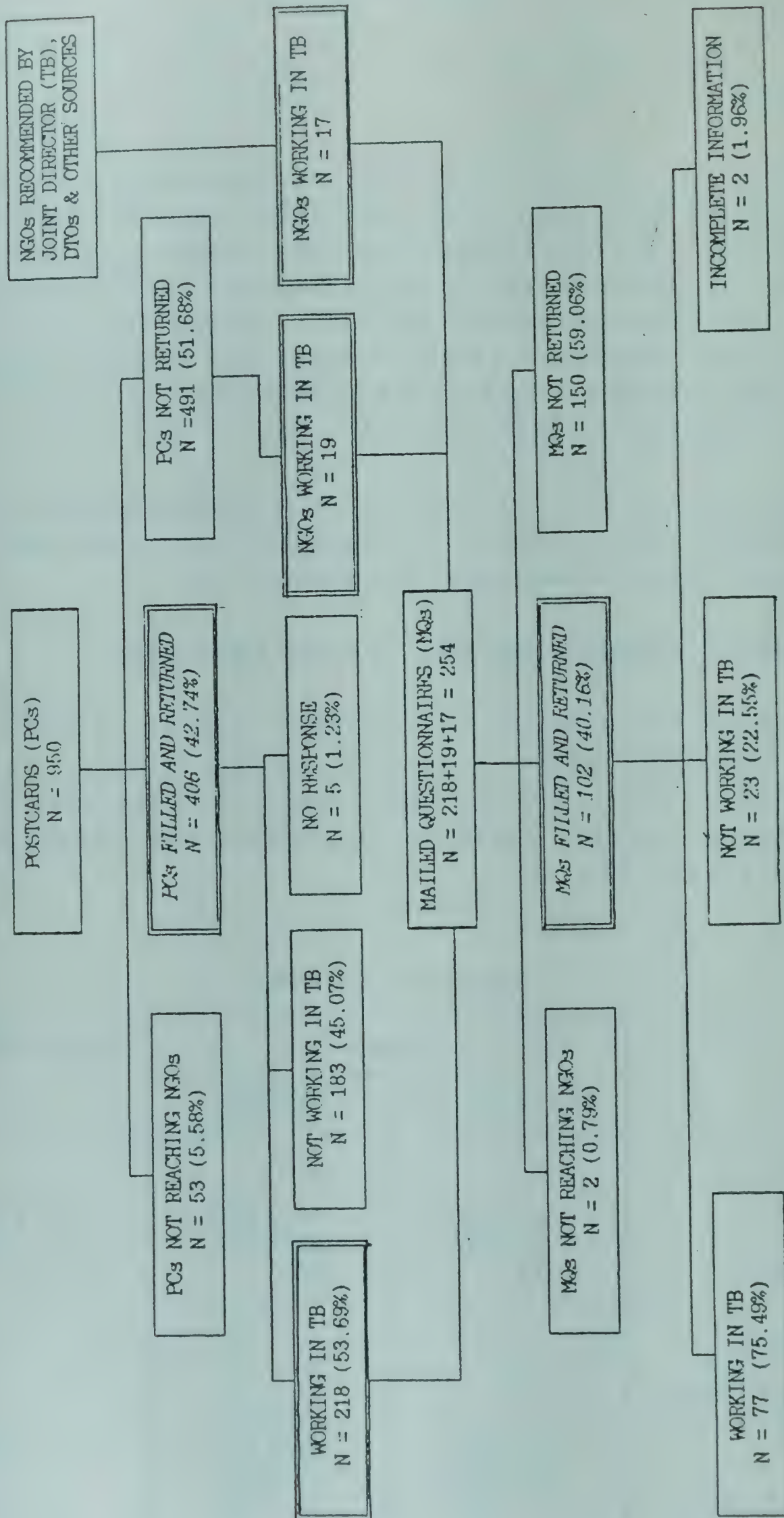
Table 1

Location of NGOs

	State		Total NGOs
	Maharashtra	Gujarat	
Location of Headquarters			
Urban	62 (80)	37 (65)	99 (74)
Rural	15 (20)	20 (35)	35 (26)
Total NGOs	77	57	134
Location of Project Area for Urban NGOs			
No project area	1 ( 2)	1 ( 3)	2 ( 2)
Urban	26 (42)	5 (13)	31 (31)
Rural	10 (16)	11 (30)	21 (21)
Urban & Rural	24 (39)	19 (51)	43 (43)
No response	1 ( 2)	1 ( 3)	2 ( 2)
Total NGOs	62	37	99

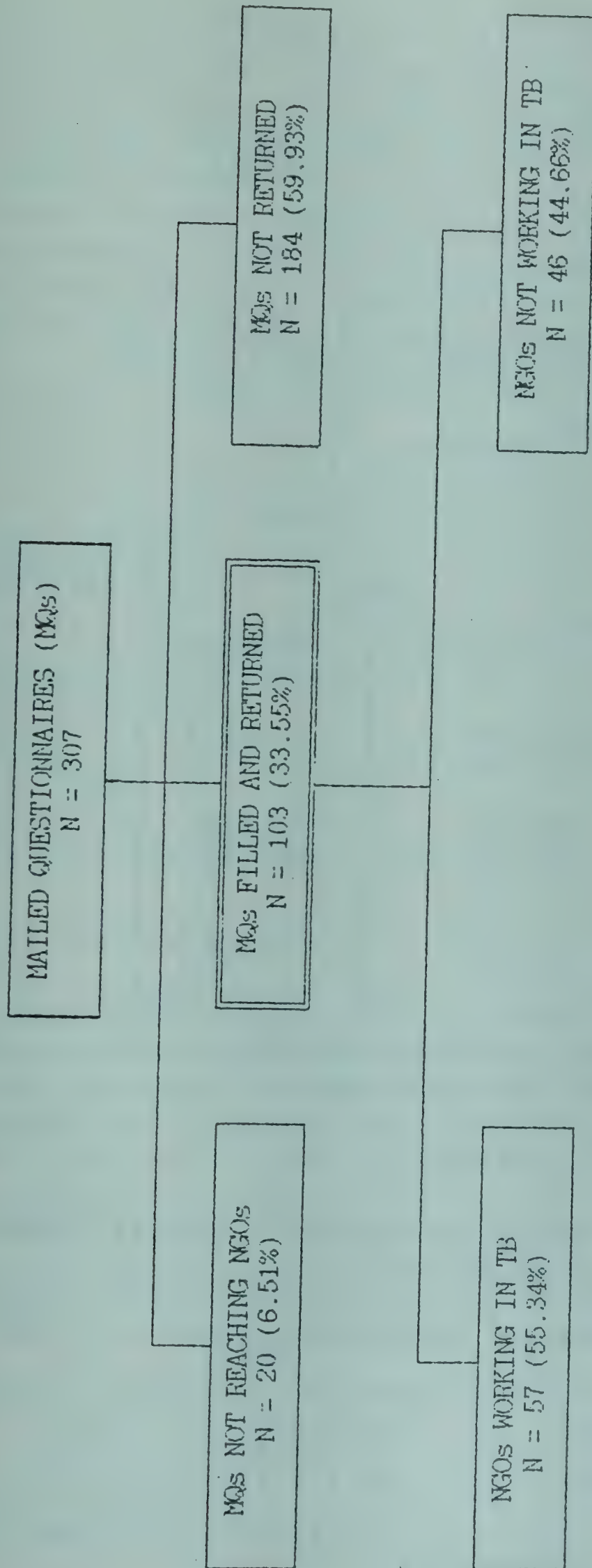


RESPONSE RATES TO THE QUESTIONNAIRES IN MAHARASHTRA  
(Updated upto October 1994)





RESPONSE RATES IN GUJARAT  
(Updated Up to October 1994)



Flow Chart 2



## Source of Funding

NGOs depend on external funding for their projects and activities. A majority of NGOs have reported multiple sources of funding. Individual donations form the most important source of funding for these NGOs. While for NGOs in Maharashtra, funding from international agencies is a major source, more NGOs in Gujarat have reported receiving state or central government funding (Table 2). The report of the TB Directorate shows 13 NGOs in Gujarat having beds for TB patients to be receiving grants from the state funds. It can be seen from Table 3 that about 30% of the state TB budget is being allocated to NGOs as grants.

Table 2

### Nature of funding for NGOs

	State		Total NGOs
	Maharashtra	Gujarat	
Sources of funds			
Individual donors	58 (75)	48 (84)	106 (79)
State govt./Mun. corp.	29 (38)	30 (53)	59 (44)
International funding agencies	33 (43)	16 (28)	49 (37)
Other NGOs	23 (30)	14 (25)	37 (28)
Central govt.	17 (22)	11 (19)	28 (21)
Public/Pvt corporatn. & industrial estabs	15 (19)	4 ( 7)	19 (14)
Others	8 (10)	7 (12)	15 (11)
No funds		1 ( 2)	1 ( 1)
Total NGOs	77	57	134

Note : Multiple sources of funding mentioned

Table 3

### Allocation of Funds to NGOs from State Government Budgets in Gujarat

	Annual TB Budget (Rs)	Annual Allocation to 13 NGOs (Rs)
1991 - 92	73.0 million	26.9 million (36.8%)
1992 - 93	77.6 million	24.2 million (31.2%)
1993 - 94	83.7 million	26.2 million (31.3%)

Note : Figures in parentheses indicate allocation to NGOs as a percentage of total TB budget



Apart from providing grants for NGOs offering TB beds, the state government was reported to be providing other kinds of support to NGOs - in the form of drugs, deputation of health workers, supply of stationery etc. Thirty-three percent of the NGOs reported receiving drugs from the government. Table 4 shows the nature of support received by NGOs.

Table 4

Nature of Support received from Government

	State		Total NGOs
	Maharashtra	Gujarat	
Nature of Govt. Support received			
Supply of drugs	27 (35)	17 (30)	44 (33)
Grants	4 ( 5)	12 (21)	16 (12)
Supply of stationary	8 (10)	5 ( 9)	13 (10)
Deputation of workers	2 ( 3)	2 ( 3)	4 ( 3)
All of the above		3 ( 5)	3 ( 2)
Other	2 ( 3)	5 ( 9)	7 ( 5)
No response	46 (60)	27 (47)	73 (54)
Total NGOs	77	57	134

Note : Multiple responses given

*Nature of TB work*

Only 40% of NGOs have a "TB Programme" including case finding, treatment and case holding activities and an additional 15% were offering treatment to TB patients. Thirty-two NGOs (11 in Maharashtra and 21 in Gujarat) reported holding diagnostic camps, though infrequently. About 5% were identifying cases and referring them to the public health services, and 12% in addition, were undertaking follow-up of such referred cases as well. About a fifth reported undertaking only educational activities (Table 5).



Table 5

## Tuberculosis-Related Activities

	State		Total NGOs
	Maharashtra	Gujarat	
Activities Undertaken			
Only Providing assistance	1 ( 1)	1 ( 2)	2 ( 1)
Only Case finding	2 ( 3)	2 ( 3)	4 ( 3)
Only Follow-up	4 ( 5)	1 ( 2)	5 ( 4)
Case finding & Treatment	7 ( 9)	3 ( 5)	10 ( 7)
Treatment & Follow-up	5 ( 6)	5 ( 9)	10 ( 7)
Case finding & Follow-up	13 (17)	3 ( 5)	16 (12)
Only Health Education	16 (21)	10 (17)	26 (19)
Case finding, Treatment & Follow-up	26 (34)	28 (49)	54 (40)
No response	3 ( 4)	4 ( 7)	7 ( 5)
Total NGOs	77	57	134

**Case Load**

Only 67(50%) NGOs reported on the number of new patients registered in their treatment programme during the previous year. The 33 NGOs in Gujarat who have reported on case finding, together, are detecting 54,700 new cases in a year; the figure for Maharashtra is 6,660 by 34 NGOs. NGOs in Gujarat are thus seen to be handling much larger patient loads as compared to those in Maharashtra (Table 6). Analysis of the reports from the TB Directorate in Gujarat show that the twelve NGOs which send in their reports to the Directorate were detecting close to a third of cases detected by 21 State-run District Tuberculosis Programmes(DTP). Table 7 gives details of new cases detected and started on treatment by the NGOs as compared to the State.



Table 6

## New Patients Registered in Previous Year

	State		Total NGOs
	Maharashtra	Gujarat	
New Patients Registered			
Less than 50	16 (47)	10 (30)	26 (39)
51 - 100	4 (12)	3 (9)	7 (10)
101 - 500	11 (32)	5 (15)	16 (24)
501 - 1000	1 (3)	2 (6)	3 (4)
1001 - 1500	1 (3)	4 (12)	5 (7)
1501 - 3000	1 (3)	4 (12)	5 (7)
3001 - 5000	-	3 (9)	3 (4)
Approx 13,000	-	1 (3)	1 (1)
Approx 30,000	-	1 (3)	1 (1)
Total NGOs	34	33	67

Note : Percentages calculated using responders in the denominator

Table 7

## Comparative Case Detection by NGOs and the State TB Programme in Gujarat

	1991-92		1992-93		1993-94	
	State	NGOs	State	NGOs	State	NGOs
Total new sputum examinatr.	337,593	75,433(22)	340,859	71,369(21)	346,837	73,363(21)
Sputum positives detected	34,705	12,106(35)	35,520	11,871(33)	36,316	10,579(29)
Sputum Positivity (%) rate	10.3	16.0	10.4	16.6	10.5	14.4
Total New Cases Detected	143,210	46,620(32)	147,064	45,807(31)	148,645	44,923(30)
% Sputum Positives	24.2	26.0	24.1	25.9	24.4	23.5
% X-ray Positives	72.0	73.0	71.9	72.4	71.9	75.0
% Extra-pulmonary	3.8	1.2	4.0	1.9	3.6	1.5
Total Cases started on Treatment	130,940	46,411(35)	146,230	45,621(31)	145,913	44,867(31)

Note : Figures in parentheses indicate percentage share by NGOs of the state total

**Diagnosis, Treatment and other Facilities**

Fifty-one to fifty-four percent of the NGOs in Gujarat have reported having facilities for conducting x-ray and sputum examinations for suspected patients, while 40-45% in Maharashtra have the facilities. Five of these offer x-ray totally free and eight offer free sputum examination, but almost all claim to offer



these at reduced rates as compared to the market. Referrals to the public sector for these investigations was to the tune of 40% (Table 8).

Table 8

Diagnostic Tests Advised

	State		Total NGOs
	Maharashtra	Gujarat	
X-rays			
Conducted by orgn.	32 (41)	29 (51)	61 (45)
Referral to private laboratories	20 (26)	11 (19)	31 (23)
Referral to Govt. facilities	38 (49)	20 (35)	58 (43)
Sputum Examination			
Conducted by orgn.	35 (45)	31 (54)	66 (49)
Referral to private laboratories	20 (26)	7 (12)	27 (20)
Referral to Govt. facilities	34 (44)	21 (37)	55 (41)
Total NGOs	77	57	134

While 70% have the capacity (medical personnel) to start treatment for diagnosed patients in Maharashtra, more than 80% in Gujarat offered treatment. Eighty-two percent of those giving treatment were also dispensing drugs while the rest were directing them to public health facilities nearby or were prescribing the drugs from chemists (Table 9).



Table 9

## Treatment of TB Patients

	State		Total NGOs
	Maharashtra	Gujarat	
<b>Treatment</b>			
None offered	11 (14)	3 ( 5)	14 (10)
Offered by Orgn.	54 (70)	48 (84)	102 (76)
Patients referred	11 (14)	6 (10)	17 (13)
No response	1 ( 1)	-	1 ( 1)
<b>Total NGOs</b>	<b>77</b>	<b>57</b>	<b>134</b>
<b>Method Employed</b>			
Medicines dispensed	42 (78)	42 (87)	84 (82)
Prescriptions given	10 (18)	4 ( 8)	14 (14)
Other	1 ( 2)	2 ( 4)	3 ( 3)
No response	1 ( 2)	-	1 ( 1)
<b>Total NGOs</b>	<b>54</b>	<b>48</b>	<b>102</b>

Only 56 NGOs provided a response to the question on the drug regimen used by them, out of the 102 which were treating patients. Short course chemotherapy(SCC) regimens were being used by most of them. An analysis of the regimens used by NGOs showed that only five mentioned recommended ones. Two of them reported using "government / NTP approved" regimen, without specifying the regimen. In addition to these, 26 gave qualitative responses without specifying the regimen - these have been classified as incomplete or inadequate. A large number (32% of responders) were found to be using either excessive drugs or adequate drugs for excessive periods (Table 10).



Table 10

## Regimens Used by NGOs

	State		Total NGOs
	Maharashtra	Gujarat	
<b>Response Given</b>			
Responded	24 (31)	32 (56)	56 (42)
Not responded	30 (39)	16 (28)	46 (34)
Treatment not offered	23 (30)	9 (16)	32 (24)
<b>Total NGOs</b>	<b>77</b>	<b>57</b>	<b>134</b>
<b>Types of Regimens</b>			
Overadequate (more drugs or longer duration)	8 (33)	10 (31)	18 (32)
Inadequate (less drugs or shorter duration)	2 ( 8)	3 ( 9)	5 ( 9)
Adequate	2 ( 8)	3 ( 9)	5 ( 9)
Incomplete or inadequate response	12 (50)	16 (50)	28 (50)
<b>Total NGOs</b>	<b>24</b>	<b>32</b>	<b>56</b>

A total of 33 NGOs have hospitals and beds ranging in number from less than 10 to more than 750 - Gujarat was seen to have more organisations and larger ones with capacity to provide hospitalisation facility. While two in Maharashtra had more than 100 beds, there were 6 such organisations in Gujarat (Table 11). The annual reports of the TB Directorate, Gujarat also show that 75% of the TB beds in the state are in the voluntary sector (711 in public sector and 2179 in NGO sector).



Table 11

## Number of Beds for TB Patients

	State		Total NGOs
	Maharashtra	Gujarat	
Number of TB Beds			
Less than 10 beds	4 (36)	5 (23)	9 (27)
11 - 50 beds	5 (45)	8 (36)	13 (39)
51 - 100 beds	-	3 (14)	3 (9)
101 - 200 beds	1 (9)	2 (9)	3 (9)
201 - 300 beds	1 (9)	2 (9)	3 (9)
301 - 500 beds	-	1 (5)	1 (3)
More than 500 beds	-	1 (5)	1 (3)
Total NGOs	11	22	33

Note : Percentages calculated using NGOs with TB beds in the denominator

**Case Holding**

Eighty-three percent of NGOs reported that they were undertaking follow-up of patients - while most reported to be laying stress on education and information of patient and the family members, home visits by personnel also seemed to be a method used to keep a check on their patients (Table 12). Thirty-six NGOs further claimed to have treatment regularity of more than 70% (Table 13).

Table 12

## Methods Employed To Improve Regularity

	State		Total NGOs
	Maharashtra	Gujarat	
Methods Employed			
Education of patients & family members	48 (62)	38 (67)	86 (64)
Visits by social/health workers	35 (45)	25 (44)	60 (45)
Monetary & other incentives	23 (30)	12 (21)	35 (26)
Reminders by Post	14 (18)	20 (35)	34 (25)
Other methods	12 (16)	-	12 (9)
No response	14 (18)	9 (16)	23 (17)
Total NGOs	77	57	134

Table 13

## Patients Taking Regular Treatment

	State		Total NGOs
	Maharashtra	Gujarat	
Percentage of Regular Patients			
Less than 10%	1 ( 4)	-	1 ( 2)
11 - 50%	5 (19)	4 (14)	9 (17)
51 - 70%	1 ( 4)	7 (25)	8 (15)
71 - 80%	8 (31)	6 (21)	14 (26)
81 - 90%	5 (19)	6 (21)	11 (20)
More than 90%	6 (23)	5 (18)	11 (20)
Total NGOs	26	28	54

Note : Percentages calculated using responders in the denominator

Comparison of treatment outcomes of the state and the NGOs reporting to the TB Directorate, however, showed that the performance of the NGO sector as a whole was below the state average, though five NGOs, individually, were performing better. The performances have been estimated by comparing the figures of patients completing treatment with the number of patients started on treatment in the previous year (Table 14).

Table 14

## Comparative Performance of NGOs and State TB Programme

	1992-93		1993-94	
	State	NGOs	State	NGOs
% Completing optimum period of treatment	29.0	24.8	29.0	25.2
% Lost	69.8	61.0	63.8	66.2
% Dead	1.6	1.5	1.3	1.4

About three-quarters of the NGOs reported offering assistance to TB patients - in the form of nutritional supplements, tonics and financial support for travel or purchase of drugs (Table 15). While some provided the assistance as a gesture of altruism towards the poor and needy, others believed this to help in case holding.



Table 15

Nature of Assistance Provided to Patients

	State		Total NGOs
	Maharashtra	Gujarat	
<b>Assistance Offered</b>			
Yes	45 (58)	43 (75)	88 (66)
No	28 (36)	12 (21)	40 (30)
No response	4 ( 5)	2 ( 3)	6 ( 4)
<b>Total NGOs</b>	<b>77</b>	<b>57</b>	<b>134</b>
<b>Nature of Assistance</b>			
Distribution of food	27 (60)	25 (58)	52 (59)
Distribution of tonics	30 (67)	22 (51)	52 (59)
Financial support for Medicines	28 (62)	21 (49)	49 (56)
Financial support for Diagnostic tests	25 (56)	11 (26)	36 (41)
Financial support for Travel	17 (38)	12 (28)	29 (33)
Other	1 ( 2)	3 ( 7)	4 ( 4)
<b>Total NGOs</b>	<b>45</b>	<b>43</b>	<b>88</b>

Note : Multiple responses given

**PHASE TWO**

The 77 NGOs in Maharashtra and 57 in Gujarat who responded to the questionnaire were first stratified into three categories. This exercise of stratifying NGOs revealed a concentration of 45% of the NGOs in each of Categories 2 and 3 in Maharashtra. The proportion in Category 1 was 9%. The proportions in the three categories in Gujarat were 25%, 35% and 40% respectively. The NGOs in Category 3 though important, are irrelevant for our study. These were therefore disregarded for our selection of NGOs for the case studies - and 8 from Category 1 and 5 from Category 2 were selected. Table 16 summarises the distribution of NGOs in the three categories and the numbers selected.

**Table 16**  
**Categorisation of NGOs**

	State				Total NGOs	
	Maharashtra		Gujarat			
	Total	Selected	Total	Selected	Total	Selected
Category 1	7 ( 9)	4	14 (25)	4	21 (16)	8
Category 2	35 (45)	3	20 (35)	2	55 (41)	5
Category 3	35 (45)	—	23 (40)	—	58 (43)	—
Total NGOs	77	7	57	6	134	13

The second phase of the study provided the opportunity to observe first hand some of the NGO-run programmes, obtain secondary data to understand their effectiveness and identify some of the reasons for their successful implementation of the TB programme. Totally thirteen NGOs were visited - seven in Maharashtra and six in Gujarat.



## *Problems in Conducting Cohort Analyses*

Because of poor record keeping by NGOs, there were several problems faced in conducting cohort analysis.

- \* Most NGOs did not always record the treatment outcome for all their patients. Hence the outcome of percentage of patients completing optimum period of treatment (COPT as recommended by the NTP), which should logically be between the 80% drug collection and 100% drug collection rate, may be even less than 80%. On the other hand, a few NGOs have patients who have taken some amount of treatment with other providers, getting transferred into the programme. Their treatment outcomes, however, do not indicate this. The outcome in such NGOs shows the percentage of patients who were labelled as COPT to be more than those collecting 80 or 100% drugs.
- \* Cohort analysis should have been restricted to sputum positive patients only. However, in several NGOs, sputum tests were not performed for all patients or were not recorded. In these cases we have had to club all patients into a single category.
- \* In some NGOs having large numbers of sputum negative patients, the analysis has been performed on this group also.
- \* Most NGOs were either not very rigorous in performing sputum examinations at the end of the treatment course or were not recording these meticulously. (The reason furnished by an urban NGO with good records for this is that, it is difficult for patients who have responded to treatment and whose cough has disappeared to produce sputum for examination at the end of the treatment period. Hence it was not insisted upon and the result of the examination at the end of intensive phase of treatment was taken to indicate sputum conversion. Moreover, since patients were being regularly physically examined by doctors, those who failed to respond to the treatment - failure cases - were invariably easily identified). This was the reason why it was not possible for us to estimate cure rates for all NGOs. In those where this has been reported, it has been estimated by calculating the number of cases whose treatment outcome was recorded as "failure".

## *Summary of Profiles*

Tables 17 and 18 summarize the most important salient features of the organisations studied.

Table 17

### Profiles of NGOs from Maharashtra selected for Phase 2

	Nature	Approach to TB	Annual New Case Detection	Optimum Trtmt. Completion
M1	Health NGO with well defined TB programme (urban)	Clinic-centred, case selection, case holding by health/social workers	2000	80%
M2	Health & development NGO with TB as a part of health (rural)	Case finding, treatment delivery & case holding through Community Health Volunteers(CHV)	600	73% in project area 27% in non-project area
M3	Local association of general practitioners (GP) (urban)	Clinic centred, case holding by referring doctors	200	58% for one 1993 and 83% for 1992
M4	Social welfare NGO with health activities (urban)	Facilitation of use of public TB services through community-based health workers	100	57%
M5	Mission hospital for TB and chest diseases (rural)	Out Patient Department (OPD) based diagnosis and treatment	Not Available	Not estimated
M6	Loose network of private doctors (urban)	Diagnosis & treatment through participating doctor's clinics	2000	33%
M7	Mission-run hospital with community-based MCH & TB services	Case finding through CHVs, diagnosis & treatment through OPD	60	Not estimated



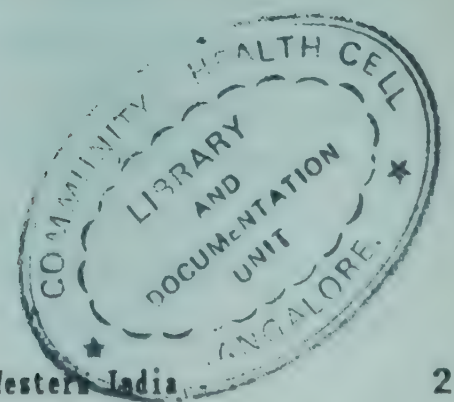
Table 18

## Profiles of NGOs from Gujarat selected for Phase 2

Nature	Approach to TB	Annual New Case Detection	Optimum Trtmt. Completion
G1 Health & development NGO with a health insurance scheme linked to village dairy cooperative (rural)	Case finding, drug delivery & case holding through village health workers(VHW)	1500	77%
G2 Health & development NGO with well defined integrated TB program (rural)	Case finding & case holding through Integrated Child Development Services (ICDS) and TB workers	4000	80%
G3 TB hospital (rural)	Hospitalisation & OPD services	8000	77% for hospitalised & 26% for OPD patients
G4 TB NGO with clinic and hospital (rural)	Diagnosis & treatment through TB clinic	18,000	12%
G6 TB sanatorium (rural)	Hospitalisation only	Not Applicable	Not Applicable
G7 Hospital for curative care (rural)	Hospitalisation & OPD services	16	Not estimated

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3.480



## DISCUSSION

NGO participation in the social sector ranges from assistance in policy making to actual field based service delivery. They also have a long history of involvement in specific disease control programmes like tuberculosis and leprosy. Unfortunately, empirical studies on the private NGO sector are hard to come by. There are a few studies which have described NGO models and highlighted their strengths and weaknesses and systematically measured certain specific outcomes such as the impact on the knowledge, attitude and practices of beneficiaries, utilization patterns between project and non-project areas and improvement of health status or reduction in disease rates, and described and estimated nature and effectiveness of NGO finances. But there is almost no data on tuberculosis control activities and programmes beyond qualitative accounts.

This study on NGOs in tuberculosis control based in Maharashtra and Gujarat, the two largest states in Western India, is a step towards plugging these information gaps. It has attempted to study the nature and extent to which NGOs are involved in tuberculosis control through a questionnaire survey and assess the effectiveness of a few NGO programmes through case studies.

### *Number, Locations and Burden of Anti-TB Work*

Our survey of NGOs in Maharashtra and Gujarat has shown that barring 34% in Maharashtra and 9% in Gujarat, the rest of the NGOs are working in rural areas. All the urban NGOs in Maharashtra are located in Bombay.

NGOs are believed to have a very poor population coverage and are supposed to reach out to less than five percent of the country's villages and poor urban communities. In tuberculosis, however, they are seen to be handling large patient loads in Gujarat. Thirty-three NGOs in Gujarat have reported detecting 54,700 new cases in a year, while 34 in Maharashtra have detected 6,660 cases. The new case detection by the state programme in Maharashtra was 191,160 in 1992. Thus, the NGOs contribution to case detection would work out to around 3.5% in Maharashtra. The data made



available by the Gujarat state TB directorate shows that 12 NGOs, which send in their reports to the programme, handle about 45,000 cases which is almost a third of the new cases detected and started on treatment by the State TB Programme.

All the organisations studied by us in Maharashtra were working within limited areas and handling reasonably manageable patient loads. However, three of the organisations in Gujarat (G1, G2, G3) had very large infrastructures and were handling fairly large loads. G1 and G2, however, were more successful than G3, because of the stress on case holding in their programme. G4, though lacking a massive infrastructure, was handling large patient loads. Both G3 and G4 were attracting patients from across the state and from neighboring states; both these had very poor systems for case holding. Some of the patients appeared to be spending about Rs.200 for every visit to the NGO.

The higher utilisation by people of the non-governmental sector could be because of the advantage they have over the government sector - of having an image of not being "government" agencies and hence being viewed more favourably. We realised this when we undertook case studies of some organisations which offered diagnosis and treatment facilities for patients at a cost, but still continued to attract large number of patients. It could also be attributed to the reputation of the NGOs after years of consistent and good quality service to the people, and the confidence they have managed to build in their clients.

### ***The Place of Tuberculosis in the NGO Health Programmes***

Close to 85% of the NGOs surveyed had TB as only a component of their overall health activities. The number of NGOs with TB as their main or only activity were seven in Maharashtra and fourteen in Gujarat. In our case studies, none of the organisations in Maharashtra was exclusively involved in TB-related work; however, there were three (M1, M3, M6) with well-defined TB programmes. Three organisations in Gujarat (G3, G4, G5) were TB NGOs and among the other three, two (G1, G2) had well designed TB programmes.

During the survey it was realised that a mere 40% of NGOs had activities under all the three components of control - case



finding, treatment and case holding - which go to make a "programme". An additional 15% were offering drugs. The rest were referring suspected cases to other facilities in the vicinity for diagnosis and treatment. However, it is interesting that a fifth have mentioned that they follow-up such referred cases. This seems to indicate that they have the capacity to keep a tab on such referred cases. The programme, whose weakest component is case holding, can taken advantage of these NGOs and make them undertake this as a routine activity for the programme.

During the profile building exercise, it was further realised that even among those who have all the components of a programme, the principles of these components were not always being understood and implemented. Further, there were hardly any attempts made, to follow nationally recommended diagnostic and treatment guidelines. Even in the case of those receiving grants from the state government, guidelines were rarely being followed. This was because of the substantial political clout some of them enjoyed which immunised them from the dictates of the state.

### ***NGO approaches to tackling TB***

Broadly, it was seen that the NGOs offering TB services were following the four approaches discussed below.

1. ***Institution/Hospital/Clinic Based Programmes*** : This was the commonest approach adopted by most NGOs - 32 in Gujarat and 34 in Maharashtra. Even among this group, three different categories were seen to exist -

- a. Those which had an outreach programme emanating from the hospital/clinic. M1 and M7 belonged to this category. M1 was operating a well designed programme following properly laid down guidelines for diagnosis and treatment, implemented through clinics, but with the facility of health and social workers to undertake case holding activities in the community. It was also using a pre-registration screening process for "case selection" to weed out patients belonging to the floating migrant population, non-residents and cases staying too far outside the project area. Such cases were diagnosed and started on treatment. However, they were not registered



in the control programme, if deemed unsuitable for a permanent registration following a home visit by a medical social worker. The proportion of such patients in the total number of unregistered patients however, turned out to be small (5.5%).

M7 had all the makings of a good community-based programme centred around a base hospital providing the diagnostic support, with drug supplies coming from the nearby government centre. However, due to an absence of emphasis on TB (its focus was MCH), it could not be said to be having a "TB programme".

- b. Those which offered hospitalisation facilities as well as ambulatory treatment. M5, G3, G4, and G6 belonged to this group. M5 was selected for its standing as an old and well known chest hospital as well as a centre for TB treatment. It had an extremely clinical approach towards TB without much concern for its public health implications.

G3 and G4 were handling extremely large patient loads drawn from across the entire state. Both these NGOs had no concept of case holding, and were largely driven by a need to increase case detection. Both these had low treatment completion rates. G4 had realised the need to have treatment centres closer to the patient's residence and had made attempts to establish referral systems with rural government-run PHCs. This system has been slowly failing because of the lack of regular drug supplies at the PHCs.

G4 had also occasionally made some attempts at sending letters to defaulters - but the activity seemed to have lost momentum due to lack of personnel to undertake this as a routine. G4's attempt at case holding would have improved if patients had been restricted to a limited geographic area. It is in this context that one should view the case selection process of M1.

In the case of G6, though the organisation had the advantage of access to unlimited drug supply and materials, it had suffered due to the absence of a



physician. Further, it had made no attempts to have a community-based programme.

- c. Those which did not have the capacity to offer any follow-up services after the period of hospitalisation. Only one of the organisations (G5) studied by us belonged to this category. G5 was selected solely to understand the role that sanatoria play in the chemotherapeutic era (there were six sanatoria in Gujarat - four run by NGOs and two by the state government). Studying the functioning of this sanatorium makes us realise that unless such sanatoria (and hospitals) have the facility to offer ambulatory treatment through clinics/OPDs to discharged patients, develop systems for case holding, or network with some other agency offering such facility in the vicinity, they will continue to aggravate the epidemiological disaster threatening the disease. It is a pity that state support in the form of grants is being dissipated on several such organisations. Out of the 13 NGOs receiving grants from the government, information is available for 11 and of these, four offer only hospitalisation.

2. *Use of Community-based Workers* : M2 in Maharashtra and G2 Gujarat were using community/village-based health workers in well integrated programmes.

M2 was using CHVs for delivering drugs to patients residing in its project areas. But it did not have well laid down guidelines for its TB programme. The drug collection in its project areas was much higher than its non-project areas, indicating that its CHVs were effective. However, it was not as successful as compared to the other NGO (G1) using health workers for drug delivery. On the other hand, it had been more adept at dealing with some of the social implications of tuberculosis like stigma.

A well integrated TB programme was being run by G2, using the ICDS worker - a part time worker specifically meant for a national programme, through whom a number of other health programmes were channelised. There was some additional payment made to these workers for undertaking the extra work. This remuneration is not termed "incentive", though it serves



the same purpose. Further, small incentives were given to these workers for case finding and treatment completion. The success achieved by this NGO could easily be attributed to the incentives offered to the workers for their TB and other work. But we have every reason to believe that offering of incentives without adequate monitoring and supervision could, in fact, lead to a complete collapse of the programme; a standing example of this is the family planning programme.

M4 and G1 which also used community-based workers adopted a slightly different approach and hence are discussed separately.

3. *Utilising Public Health Services* : The survey of NGOs has shown that almost half the NGOs involved in TB, are, in fact, dependent on the government services in some manner or the other. Thirty-seven NGOs in Maharashtra and 18 in Gujarat were reporting using the public health services. However, due to the lack of a proper referral system, this is not always a methodical way of functioning. This is where the efforts of M4 and G1 stand out. Full or part utilisation of public health facilities for TB was being attempted by both these, with a fair deal of success. M4 was utilising the diagnostic as well as treatment facilities of the local TB programme, but the distribution of drugs to the patients was being undertaken by its CHVs in the community through its centre. Due to periodic problems of drug and x-ray film shortages, M4 had to resort to purchasing drugs from the market using its limited resources. Nevertheless, this was still preferred by M4 to the alternative of setting up the infrastructure to provide anti-TB services to the community. The realisation of its strengths and limitations had made it limit its size and maximise use of public health facility, concentrating its energies on education of patients.

G1, on the other hand, had restricted its use of the public health services to diagnosis, thereby dispensing with the need for a doctor. The decision to purchase its own drugs had released it from the irregularities of supplies. Moreover, delivery of drugs to the doorsteps of patients appeared to have helped G1 achieve high treatment completion rates.



M7 was yet another organisation which was diagnosing patients in its base hospital, but was receiving a large proportion of drugs from the District TB Centre, due to its good rapport with the District TB Officer. Patients were made to purchase drugs from chemists when they fell short of supplies.

This approach of utilising public health services in part or full can be advocated, considering that a large number of NGOs do not have the capacity to undertake all the activities for TB control. However, a formalisation of this utilisation, in the nature of good referral systems is essential as a first step.

4. *Involving Private Doctors* : It is a well established fact that the first point of contact for the majority of TB patients is the private doctor. But there have been very few attempts to involve this sector within the TB programme, even to the extent of setting up a proper referral system. Two NGOs in Maharashtra (M3, M6) have been implementing the programme using private practitioners. The programme in M3 was limited to a small group of doctors in a fixed geographical area. It was also standardised, following strict diagnostic and treatment guidelines. Unlike M3, M6 allowed its doctors to use their own criteria for diagnosis and treatment resulting in wide variations and inadequate record keeping and monitoring. Although the method adopted by M3 is preferable, it is largely a one-man-show resulting in poor record keeping. Further, its inability to show consistence in its performance indicates the need for better infrastructure and more involvement of its members in the programme. At the same time, the performance of the more decentralised programme by M6 leads us to the conclusion that the former approach is epidemiologically sounder.

### ***Technical Aspects of Programme Components***

Close to 50% of the NGOs surveyed appear to have facilities to conduct diagnostic tests. About 40% were referring patients to nearby government facilities.



Two NGOs in Maharashtra (M1, M3) and three in Gujarat (G2, G3, G4) had proper guidelines laid down for diagnosis as well as treatment regimens to be used. All these NGOs had the advantage of being guided by experts with a public health perspective. All these NGOs were using both x-ray and sputum examination for confirming diagnosis. The x-ray is recognised as an important test by almost all NGOs. It appears that the association of X-ray chest as an investigation necessary for diagnosing TB is so strong in people's minds that subjecting them only to sputum microscopy, as is envisaged under the revised NTP, might fail to convince the patient about the veracity of diagnosis of tuberculosis, resulting in the loss of confidence in the provider.

Only 56 organisations responded to the question on regimens used in their TB programmes. While 18 were seen to be using over adequate regimens, the use of inadequate regimens was limited to 5 NGOs. Twenty NGOs each in Maharashtra and Gujarat, reported using SCC regimens. Of the NGOs studied by us, M3 had restricted its programme to sputum positive patients and used SCC for all its patients. While M1 and G2 used SCC for all patients, regardless of sputum status, G3 and G4 used standard regimens (SR) for sputum negative patients. G2 was seen to be using unsupervised thrice weekly regimen with hardly any operational problems. G4 offered SR to all its patients at a nominal cost, and SCC (regimen without pyrazinamide) to those sputum positive patients who could afford to pay for the extra cost of rifampicin. The feature common to all NGOs (except M4) was the regularity of drug supply.

G3 was using SCC for sputum positives and SR for sputum negatives, but it preferred to hospitalise all sputum positive patients for a period of two months, corresponding to the intensive phase of treatment. The performance of G3 shows a peculiar picture - while the patients treated on an out-patient basis showed poor drug collection patterns (average of 26%), 77% of those who had been hospitalised had collected the optimum amount (80%) of treatment. The reason for this is not understood, though some studies have pointed out the association in people's minds of the need for hospitalisation with treatment of TB. This is an area which needs to be studied further.

M4 and M7 which were using the treatment facilities of the state-run programme, were following programme recommended regimens. G1, though not using the treatment facilities of the government programme, was using SCC for sputum positives and SR for negatives.



The problem common to the programmes of M4 and G1 was however, continuation of the regimens for much longer periods than necessary. This points to the inadequacy of the follow-up component of the programmes of these organisations. It also indicates the poor monitoring offered by the government-run programme, especially in the case of M4, where drugs for the excessive periods of treatment were being provided by the programme.

Many of the NGOs (M2, M5, M6, G6 and G7) were using a variety of regimens, since there was absence of treatment guidelines and the clinicians treating the patients had a free hand in the use of regimens. All of them, however, were using SCC regimens predominantly.

The weakest aspect of most NGO programmes was realised to be record keeping.

- \* In the case M5, M7, G5 and G6, records were so badly maintained that it was not possible to conduct any analysis.
- \* G3 had treatment cards and registers for patients who were receiving free treatment; no records were available for its other patients.
- \* M2, M6 and G1 neither had treatment cards for their patients, nor centralised records - details were being maintained in registers by the centres / health workers / doctors. G1, however, had a very good Management Information System for most of its other activities and was in the process of computerising the information generated from its TB programme as well.
- \* M1 and G2 had clinic-wise treatment cards and registers which were well maintained. Further, each of G2's TB workers had a register which was similar to the book of treatment cards (BTC). M1 also had a computerised database of its TB programme (though it was only being used to generate monthly reports). However, both these did not have proper recording of results of follow-up investigations.
- \* Though G4 had case files instead of treatment cards for its patients, it had an excellent system of filing patient files which enabled very easy retrieval.



- \* The records, including the treatment cards, in M3 were incomplete, since the only part-time worker in the programme resorted to a very complicated method of maintaining a daily register and transferring this information into the treatment cards occasionally.

Even in those NGOs, where the record keeping had very few flaws, there had been no attempts to analyse the data and understand their own performance better; records were seen as necessary to generate monthly reports for funders. Cohort analyses to understand treatment completion patterns had never been attempted by any of the NGOs and ours was the first ever effort.

### ***Strategies to Improve Treatment Adherence and their Effectiveness***

Eighty-three percent of NGOs were reporting undertaking follow-up of patients - education and information of patient and the family members and home visits by personnel were the method mentioned. This information however, should not be interpreted to mean that the case-holding activities mentioned by the NGOs are routine and streamlined. During our in-depth study of organisations, we realised that most NGOs (who had reported such activities in the questionnaire) did not have well laid down guidelines for case holding, and visits by social workers or posting of reminder letters were activities undertaken, whenever convenient.

The approaches to improving treatment adherence adopted by some of the organisations studied by us are interesting. Five of the organisations (M1, M2, M4, G1, G2) laid stress on intense interactions with the patients.

M1 relied on health and social workers as well as their doctors to "talk" with the patients and family members at each fortnightly visit for drug collections. M1 also used "case selection", as explained earlier, which helped it to have control over the geographical spread of its patients and consequently made its case holding activities easier - M1 was thus achieving a treatment completion rate of about 80%.

Case-selection, used by M1, may be unacceptable on ethical grounds and in public programmes, and may artificially improve the



treatment outcome as well. Yet, if the criteria for refusal are laid down carefully, "case selection" may deserve consideration in urban areas. Such an approach may help to improve treatment adherence by curbing the well known "shopping for treatment" by tuberculosis patients. Effective networking among public and private agencies offering services to TB patients could help in operationalising "case selection" on a larger scale.

M2 and G1 used health workers to deliver drugs to the patients' houses on a monthly basis, and used this opportunity to interact with the patients and the family members. M4, working in a poor community with limited access to public services, helped its patients by bringing drug collection closer to their door-steps. Its health workers and doctors also had regular interactions with the patients. It has been argued that making drug collection easier for the patient could lead to improvement in treatment adherence. However, a comparison of the performance of these three NGOs which used this method shows that while 77% of G1's patients were completing treatment, M2 and M4 were achieving treatment completion of 73% and 57% respectively.

In addition, a refundable deposit from patients was collected by M4 to ensure treatment completion. This method was also adopted by M3 - the referring doctors collected deposits from the patients. They also used weekly vitamin and calcium injections to help case holding. M3's treatment completion rate was about 58%.

G2 used its village-based ICDS worker to follow-up the patients in their villages. They also used the waiting period in the clinics to arrange for talks and discussions. However, instead of merely using their own staff to give talks, they arranged for old patients - those who had completed treatment as well as those who had been irregular - to share their experiences with the others. This did seem to have a desirable impact on those on treatment, for G2 is one of the two NGOs with high treatment completion rates of 80%.

### ***State support to NGO programmes***

The information given by NGOs through the questionnaires seemed to indicate that several of them were receiving some kind of support in the form of grants, drug supplies, stationery etc. Grants, to



the tune of 30% of the state TB budget, are being given to 13 NGOs offering TB beds. Four of these are definitely known to offer only hospitalisation services. Two of the organisations - G3 and G4 - which receive grants have been studied by us in detail. If their performance is taken as an indicator of the performance of the others, there is a very strong case to reassess funding of NGOs. State TB directorates need to periodically monitor the performance of NGO programmes, weed out non performing organizations and offer support to technically sound programmes.

It was realised that while grants to NGOs was from the state government, supply of drugs or stationery was from the programme at the District level, at the discretion of the DTO. Some of the DTOs kept meticulous lists of NGOs in their area (which were provided to us when we were in the first phase of the study). This was more methodically done in Gujarat. However, there being no commitment, in most cases (M1, M3, M4, M6, G1) on the part of the DTO (the Area Tuberculosis Centre(ATC), in urban areas) to the NGOs, this support was erratic in nature. It was also seen to be a result of the relationship of a particular NGO representative with the government official. This is the reason why NGOs like G1, which have their own funds, prefer not to depend on the government for drugs.

There is a need, at this juncture to discuss the largest NGO for TB in the country - the TB Association of India (TAI) which receives recognition by the programme both at the central and state level. The stated objectives of this NGO is to supplement governmental efforts in stepping up the activities in general and to help in removing lacunae. The various activities which its various branches are expected to undertake are -

- \* Health education - producing and distributing health education material.
- \* Case finding - holding diagnostic camps
- \* Case holding - setting up subsidiary drug distribution centres
- \* Continuing medical education of all health personnel

The information received about the state level and district level branches of TAI in our survey, was very minimal. The Maharashtra State Branch (which was known to us as running a diagnostic and treatment centre under the Bombay city TB programme) did not



respond since it was facing some administrative problems and had to shut down its activities at the time of the study. Since none of the district level branches appeared in our lists of NGOs, the information about these (if they are existing) is missing. In Gujarat, the state branch responded to the questionnaire reported to be involved only in educational activities. A list of four district level branches was made available to us, out of which only one responded. Their activities were restricted to organising diagnostic camps in collaboration with the district TB centre. It would be worthwhile investigating the role and contribution of this oldest state-sponsored NGO to tuberculosis control in the country. Undoubtedly, the organisation has a tremendous potential put to little use, at present.

Apart from information about sources of funding and support from the government, the survey did not attempt to elicit information on the budgets of the NGO-run TB programmes, because of the reluctance shown by them during the pilot testing of the questionnaire to disclose financial information. However, the data on case loads handled by NGOs allows us to estimate that the amount which NGOs have saved for the State TB Programme in Gujarat is about Rs.17.6 million. The annual budget for the TB programme in Gujarat (after deducting the grants to the NGOs) was Rs.57.5 million for the year 1993-94. The new cases detected and started on treatment by the state programme in the same year were 145,913. The estimated per capita TB expenditure of Rs.394, if applied to the 44,867 new cases detected and started on treatment by the NGOs in the same year, works out to Rs.17.6 million.

During case studies also, it was realised there was reluctance on the part of some to share their financial information with us, while in the case of some with integrated programmes, it was difficult for them to give us such information for the TB programme. M1 had done some calculations on their expenses on their TB programme - they reported spending Rs.1500 per TB patient. Such information, if available from others could help in undertaking cost effectiveness studies of NGO programmes.



### ***Weaknesses of NGOs and inputs required***

The one area in which all NGOs, including the ones with good programmes, seem to need help is, improvement in their record keeping. The quality of record keeping in NGO programmes only reflects the poor technical guidance that most NGOs receive. This is an area needing more inputs from the NTP which has developed a system of record keeping and reporting - a system which helps in evaluating performance at each reporting level.

The other major weakness among NGOs is their isolated manner of functioning, without taking cognizance of other NGOs in their own area. What would prove very beneficial for NGOs as well as the NTP is a networking of all NGOs at the district level. There is a need for state TB directorates to prepare NGO directories and monitor periodically atleast those NGO programmes which receive funding. This could help in information sharing among NGOs and between NGOs and the NTP.

There are several NGOs who refer suspected cases to the public health services, and who have indicated that they have the infrastructure and capability to carry on community-based follow-up of patients on treatment. Setting up of proper referral systems by the public health services could help in utilising this capacity of NGOs to improve treatment adherence in NTP.

## CONCLUSION

1. NGOs in Western India, collectively, play a meaningful role in tuberculosis control. Yet, there is a great variation in their individual contributions which may be said to range from "significantly useful" to "detrimental" to the NTP. Although hundreds of such organisations operate in the two major states - Maharashtra and Gujarat - none of the organisation in Maharashtra and only three in Gujarat work exclusively for tuberculosis control and very few have tuberculosis control as a major component of their ongoing activities. The state branches of the Tuberculosis Association of India have ceased to play any worthwhile role.
2. There are great variations among these NGOs in their geographical location, size, work load, emphasis on anti-TB work, approaches to tuberculosis control, and achievements in terms of treatment completion or cure rates. Figures available indicate that NGOs detect a third of the cases detected and started on treatment by the Gujarat state TB programme, while in Maharashtra the NGO contribution is an insignificant 3.5 per cent. Treatment completion rates computed for the few NGOs who have maintained records vary from a meagre 12 per cent to an incredible 80 per cent.
3. Although several of them have the capacity to undertake purposeful TB programmes, about 60% organisations are engaged in piecemeal activities, like acting only as a referring agency, or providing only treatment, or undertaking only follow up of tuberculosis patients.
4. Most NGOs have a centralised tuberculosis programme. Barring exceptions, programme related activities of NGOs are either clinic-based or hospital-based. This generally results in an ineffective outreach and neglect of case holding, so essential for an effective programme.
5. About half of NGOs are dependent on public health services for one or more of the programme components. As a consequence, some organisations have the same weaknesses of the public health services carried over, while others have used it to their advantage by making optimum use of available public services and, at the same time, providing for the weaknesses like, erratic drug supplies.



6. Most NGO programmes are technically weak and are run without any well-defined guidelines. This is found to be a direct result of lack of technical input or monitoring by the public health services and poor professional guidance received by the organisations from the so-called experts. This is reflected in the inappropriate choice of diagnostic tests, varying treatment regimens, and poor attention to treatment completion, and maintenance of records in most NGO programmes. The few NGO which are performing well, are all guided by doctors with a sound public health perspective and an understanding of the more sensitive social aspects.

7. Perhaps, the weakest component of the tuberculosis control related activities of NGO is maintenance and use of records. Barring a few organisations, records are very poorly maintained and never used for any worthwhile purpose. This again is a reflection of poor professional guidance and technical inputs. Surprisingly enough, the concepts of cohort analysis and treatment completion / cure rates are alien to all NGOs studied in both the states. Programme managers derive satisfaction from the increasing numbers of patients on the registers and are content with their impressionistic estimates of successful treatment completion by their patients.

8. Despite their weaknesses, some NGOs have successfully introduced highly appropriate and locally suitable innovations within their programmes. The successful rural programme in Gujarat using a combination of village-based ICDS workers and TB workers for effective delivery of unsupervised intermittent SCC has many elements that the DTPs could adopt fruitfully. A model urban programme in operation in Bombay shows how shopping for treatment so common among patients could be curbed and how marginal inputs like periodic pep-talks by both social workers and doctors yield desirable results. Involvement of private doctors in a standardised tuberculosis control programme has been demonstrated very well by another NGO in Bombay. If the few flaws within the efficient Management Information System of a Gujarat-based NGO are rectified, it could be well adapted to various situations not only within the NGO programmes, but for the DTP as well.

9. Non-availability of a simple list of NGOs working in tuberculosis control in either of the states shows the apathy with which the states view them. It is reasonable to expect the state TB directorates to establish strong links with, and provide support to efficiently operated NGO programmes. While such links and



support from the state are virtually non-existent in Maharashtra, Gujarat provides a good example of inefficient spending of scarce resources on the NGO programmes. A third of the state's TB budget goes mostly to maintain huge TB hospitals in the state. The policies more suited to the olden days of sanatorium based management of tuberculosis still persist and are perpetuated by the vested interests wielding strong political clout. Maintaining of a directory of NGOs, providing technical guidance, weeding out non performing organisations, offering support to technically sound programmes, facilitating sharing of experiences among NGOs, monitoring their performance periodically, and understanding their innovative, locally appropriate ways of tackling problems like treatment default, are some of the functions the state directorates can effectively undertake. Creating an NGO cell within state TB directorates to facilitate constructive interaction may be a worthwhile exercise.

10. The present study reiterates that the strengths of the successful NGOs lie in their being NON-governmental, small and therefore manageable, more aware of the needs of the community and flexible in their approaches to tackling problems. It is these strengths which make them "laboratories of learning". NGO settings could well be used for pilot testing of modifications desired to be introduced within the NTP. But, the temptation on the part of the state, either to co-opt them to implement a rigid blue print for controlling TB or, in view of the success of a few organisations, shoving the responsibility of the state of implementing a TB programme entirely off to NGOs, could well be both counter-productive and detrimental, to all - the state, the NGOs, the TB programme and consequently, the people.



## SELECTED LIST OF REFERENCES

1. Non-official anti-tuberculosis movement, Benjamin P V, Indian Journal of Tuberculosis, Vol.1, 2, 1953.
2. Health for too many : India's experiments with truth, Chatterjee Meera, in Reaching Health for All, Ed. Jon Rohde, Meera Chatterjee, David Morley, Oxford University Press, 1993.
3. Situational analysis of women and children in urban areas of West Bengal, CINI, 1989.
4. Health situation of women and children in tribal areas of Orissa, CINI, 1989.
5. Evaluation of TB awareness generation programme of Santi Tuberculosis Control Society, CINI, 1990.
6. Social aspects of Leprosy - findings from rural Maharashtra, Duggal R etal, Foundation for Research in Community Health, 1988.
7. Horizon for voluntary organisations, Editorial, Indian Journal of Tuberculosis, Vol.37, 1, 1990.
8. Health services studies in India : A review and annotated bibliography, Foundation for Research in Community Health, 1993.
9. Social and operational constraints in tuberculosis control, Foundation for Research in Community Health (under preparation).
10. A study on knowledge and attitude towards tuberculosis in a rural area of West Bengal, Geetakrishnan K etal, Indian Journal of Tuberculosis, Vol.35, 83, 1988.
11. A study of innovative strategies in continuing education for various health functionaries in voluntary organisation, Gupta J P etal, National Institute of Health and Family Welfare, 1991.
12. Study of the profile of and functioning of three community health projects, Hope M, 1989.



13. NGOs in rural health care Vol.I : An overview, Jesani A etal, Foundation for Research in Community Health, 1986.
14. Social and operational determinants of patient behaviour in lung tuberculosis, Juvekar S etal, Indian Journal of Tuberculosis (under publication).
15. Case-study of three voluntary organisations doing anti-tuberculosis work in Gujarat, Kamphuis M, Indian Journal of Tuberculosis, Vol.37, 21, 1990.
16. Voluntary effort in community health project of SEWA-rural, Khanna R etal, 1991.
17. NGO as a partner in National Tuberculosis Programme : Indian Urban Experience, Nagpaul D R, Paper presented at the 17th Eastern Regional Conference on Tuberculosis and Respiratory Diseases, Bangkok, November 1993.
18. National programme for control of tuberculosis, National health programme series 10, National Institute of Health and Family Welfare, 1988.
19. A survey of Non Governmental Organisations for delivery of health and family welfare services in Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh, Operations Research Group, 1991.
20. The role of voluntary organisations in tuberculosis control, Pamra S P, Urban Tuberculosis Control : Problems & Prospects, FRCH (under publication).
21. Report on the evaluation study of Mini Health Centre Scheme in the state of Tamil Nadu, Sapru R etal, National Institute of Health and Family Welfare, 1991.
22. Role of tuberculosis associations and voluntary organisations in implementation of the National Tuberculosis Programme, The Tuberculosis Association of India, Indian Journal of Tuberculosis, Vol.31, 25, 1984.
23. Treatment of tuberculosis - guidelines for national programmes, World Health Organisation, Geneva, 1993.



## ORGANISATION - M1

Year of Establishment : 1970  
Location : Municipal Wards H & P, Bombay City  
Population Served : 13,00,000 (Medical)  
6,00,000 (Non-Medical)

### 1. Introduction

1.1 M1, a community based organisation catering to disadvantaged families in an urban milieu, is a network of three projects loosely intermeshed with one another. The health-related projects include specific services for the treatment and rehabilitation of patients suffering from leprosy and tuberculosis and the more broad based community development projects include sponsorship programmes for education, loan schemes for housing and small business enterprises, typing and sewing classes and job placements. These three projects were envisioned and inaugurated at different points in time : the Leprosy Project preceded the Tuberculosis Control Programme (which was initiated in 1979) and community development projects (which began in 1982).

1.2 The organisation is characterised by a centralised mode of planning and policy making : all decisions affecting the organisation (even the projects) are taken by an exclusive body consisting of the Executive Director and the heads of projects with no formal feedback from the staff.

The second characteristic feature of M1 is the unintegrated mode of project functioning. The staff, numbering 125, are assigned on an exclusive basis to projects and the interaction between them is, at best, informal. Insights and experiences from one project do not feed into the other. The only channel of communication is via referrals.

1.3 The notion of change does lie at the heart of M1's activities. However, this change is not radical and never attained through conflict with the state. Rather, the understanding is that people can be empowered to help themselves. The units of change are individuals and families (not communities) and it is the social worker's (rather than the radical worker's) perspective that prevails.

1.4 The organisation covers a population of 13,00,000 (for its medical programmes) and 6,00,000 (for its community development programmes). Two communities have been chosen for non-health activities and these are situated in two western suburbs. For the Tuberculosis Control programme, the notion of community is equivalent to that of a catchment area and this is usually in the immediate vicinity of each of its TB clinics.



Over the years, M1 has expanded its sphere of influence. In the Tuberculosis Control Programme, this expansion has resulted in the creation of new clinics. The first clinic was started in 1979. A second was opened in 1984 and the remaining clinics were inaugurated at two yearly intervals. Usually these expansions have been engendered by its perception of people's needs (not on the basis of needs assessment surveys). The organisation reports that it surveys existing health status, available public health facilities and interview local practitioners prior to taking a decision.

## 2. Tuberculosis Control Programme

- 2.1 The main focus of M1's Tuberculosis Control Programme is on helping patients get rid of their disease and to that extent, it consists of medical services and social interventions designed to optimise the treatment process. The organisation has eight TB Clinics in six different localities. Some of these have a better attendance than others and it might be fair to say that the older clinics are more well entrenched in people's consciousness than the newer ones.
- 2.2 M1 has a large patient load to handle. Between January and December 1992, the number of newly detected patients was 1987. This includes patients suffering from pulmonary (sputum positive and negative) and extra-pulmonary (EP) forms of tuberculosis. For the same period, out of 739 patients treated in two clinics, 27% were sputum positive, 64% were sputum negative and 9% were suffering from EP tuberculosis.
- 2.3 The staff working for the Programme number 24. These included four Medical Officers (MOs) who are in charge of handling the clinical and organisational requirements in the areas/clinics assigned to them. One of these doctors, a specialist, holds the post of Associate Director. As the person in charge of the project, he is saddled with a host of administrative responsibilities. The other staff are four social workers who initiate social interventions (through counselling and health education) and the supervision and compilation of records. Ten Multipurpose Workers (MPWs) are deployed for field visits, drug dispensing and routine record keeping. Finally, three technical staff (including a laboratory technician and her assistant and an X-ray technician) and three office staff provide the supportive services that are so vital for the running of any programme. These staff members are broken up into teams (with a doctor at the helm). Each team handles one or two clinics.

All doctors are graduates or post graduates in allopathic medicine. Social workers usually have Bachelor or Masters Degrees in Social Work or Sociology. MPWs are generally educated upto Std.10 and are not necessarily from the project area. Their training takes place on the field without a formal course designed for them since this is perceived as being



unnecessary. The X-ray technician has a diploma and years of experience in the Leprosy Programme prior to being transferred to the Tuberculosis Programme. Finally, the laboratory technician has a B.Sc. in Microbiology and handles the needs of not only the Tuberculosis Programme but the leprosy project as well. Some of the staff members have put in as many as 10-15 years.

- 2.4 PROCESS : TB clinics are run at specific times of the day (for two to three hours) and on specific days of the week. Some clinics are held twice, some thrice and one is actually conducted on five days of the week. Clinics operate like well oiled machines. They are managed by a team comprised of a doctor, a social worker and two to three MPWs.

New patients are first interviewed by a social worker who then sends them to the MO for a clinical examination. After confirmation and registration, patients are given medicines by the MPW who encourages patients to continue treatment. Normally, patients take drugs for 14 days, not more. They are checked during every visit by the doctor who checks their weight and does a physical examination. The atmosphere is generally cordial despite the rush. Late comers are chastised.

- 2.5 CASE FINDING : Case finding is passive. Patients with complaints approach the clinics either through referrals or directly. These referrals could be for confirmation and treatment or for treatment after confirmation. They could be made by any of the following agencies : private doctors (including any of the MOs of M1), NGOs, public health services or by any of M1's outreach staff. The pattern of utilisation varies from one clinic to another. Older clinics (like Clinic # 1) had nearly one third of their registered patients between January and December 1992 coming on their own; the remaining were referred, the major source of referrals (ie.34%) being from the private sector (mainly general practitioners). On the other hand, newer clinics (like Clinic # 2) got most of its patients via referrals from private practitioners (ie.55%).

The diagnostic tests conducted for confirmation are sputum exam and X-ray. Blood tests are done wherever necessary. The tests are conducted for all patients by the organisation at no cost. Two sputum samples are sent by the clinics to M1's laboratory which is equipped to conduct haematological, smear (including skin) and sputum examinations. Results of sputum exams are made available in a week's time. X-rays are also conducted by the organisation : M1 has a 15 MA portable X-ray unit in one of its clinics and these are taken after the OPD in the morning. The X-ray plates are developed immediately and sent to the field office before they are distributed to the respective clinics. However, this is limited to patients of six clinics; the others are referred to private radiologists who offer services at discounted rates of Rs.40 to 50. The cost of X-Rays conducted by other agencies is essentially borne by the organisation although patients are requested to contribute towards this



charge through a voluntary donation. Investigations are repeated at the end of treatment. Results of tests are noted in treatment cards and X-rays are retained by M1 for the duration of treatment.

2.6 TREATMENT : Confirmations through diagnostic tests are done by the organisation for suspected patients. However, confirmation of disease does not ensure acceptance by M1 into its pool of beneficiaries. There are criteria to be met and the patient's eligibility is ascertained by the social worker who first screens them at the OPD before making a home visit within the first week of confirmation. According to M1, patients should firstly, live in the drainage area (project area) of the clinic; secondly, belong to economically disadvantage families; thirdly, have no access to other sources of free medical care (eg. Municipal services/ESIS hospitals or dispensaries) and, lastly, be *permanent* residents of the community. Usually patients are asked to produce proof of residence. Social workers also distinguish between residents and visitors by determining the permanency and nature of their occupation and the location of their children's schools.

This screening is intended to weed out patients who cannot offer some sort of guarantee about treatment completion. An analysis of the patients attending one of the clinics during the period July 93 to August 94, gives one a clearer idea of the screening process.

Total TB cases diagnosed	: 555
Total TB cases registered	: 495
Cases not registered	: 60 (17 sputum positive and 43 negative)

Reasons for not registering

Outside project area	: 24
Already on treatment elsewhere	: 6
Expired before registration	: 3
Resistant TB cases needing tertiary care	: 3
Over-diagnosed cases (on retrospection)	: 6
Primary defaulters	: 18

The Regimens followed by M1 are in accordance with the guidelines laid down by the International Union against Tuberculosis and Lung Diseases. These are : 2HRZ/4HR or 2HRZ/6HE (for fresh adult cases); 2HRZ/4HR (for fresh paediatric cases); and 2SHERZ/1HERZ/5HRE (for relapse cases and for those on re-treatment).

Patients who were started on treatment elsewhere are continued with the same regimens (termed by M1 as Miscellaneous Regimens). However these are not as commonly found as the regimens stated in the preceding paragraph.

Drugs are given to patients every fortnight. For all purposes, the organisation gives medicines to their patients at no cost. Drugs are



generally purchased from drug companies like Lupin, Tata Pharma, Ciba-Geigy since drug supplies by the government fall short of M1's requirements.

- 2.7 CASE HOLDING : M1 has a well defined case holding strategy. Motivation and follow up are mechanisms through which treatment completion is optimised. Motivation is an on-going process which takes place every time patients visits the TB Clinic. Follow up, on the other hand, is an occasional activity. Here, the job of identifying actual defaulters and bringing them back into the mainstream of treatment is handled deftly by social workers and MPWs. Defaulters are identified on a weekly basis through a perusal of treatment cards.

M1's definition of a defaulter is a patient who has failed to visit the clinic for at least a week from the due date and the list of defaulters is ascertained by going through the Treatment Cards. However, since these cards are arranged according to their registration numbers and not according to the due date of their next visit, this process is not as easily done as it perhaps could. The number of follow up visits could be as high as six.

The effectiveness of case holding can be best appreciated through a Cohort Analysis. We have attempted this exercise for two clinics. Clinic # 1 is M1's oldest clinic. Clinic # 2 was opened way back in 1984 but was relocated in its present premises as recently as 1990. For all purposes, therefore, Clinic # 2 can be regarded as a new clinic which faces all the teething problems accompanying enterprises in their nascent phase.

Results of the Cohort Analysis (presented in the following section) reveal a more than satisfactory case holding efficiency. This is particularly true of Clinic # 1 which shows better completion rates than Clinic # 2. Out of 460 Treatment Cards analysed for the period January to December 1992 in Clinic # 1, 80.5% had completed the optimum period of treatment while 0.7% were transferred. A small figure of 14.4% were lost to treatment and 0.9% were failure cases while 3.5% had expired. The corresponding figures for Clinic # 2 are as follows : C.O.P.T. (75.5%); Lost (21.2%), Failure (1.8%) and Expired (1.5%).

- 2.8 OTHER ACTIVITIES : Health education exists and takes place during home visits. Occasionally, group meetings are organised at the clinics where and films are shown to patients. Family members of each TB patients are advised to getting themselves checked. However, the ultimate decision is taken by the concerned family and M1 does not appear to insist upon medical examination of these close contacts.

- 2.9 RECORD KEEPING : The system of record keeping is good. Every clinic has a register which is similar to the Book of Treatment Cards. In addition, each clinic maintains a set of treatment cards (which has a slightly



different format from that used by the NTP) for their patients. The register and the treatment cards are well maintained and get updated during the course of the clinics. They are also constantly consulted by social workers and MPWs. Once patients complete treatment, certain items of information (name, address, date of registration, date of deletion, outcome, relapse date, regimen, occupation and X-Ray results) coded and fed into a computerised database maintained at the M1's headquarters. Since the organisation receives some support from the government (by way of drugs), they are expected to submit reports periodically to the Municipal Corporation.

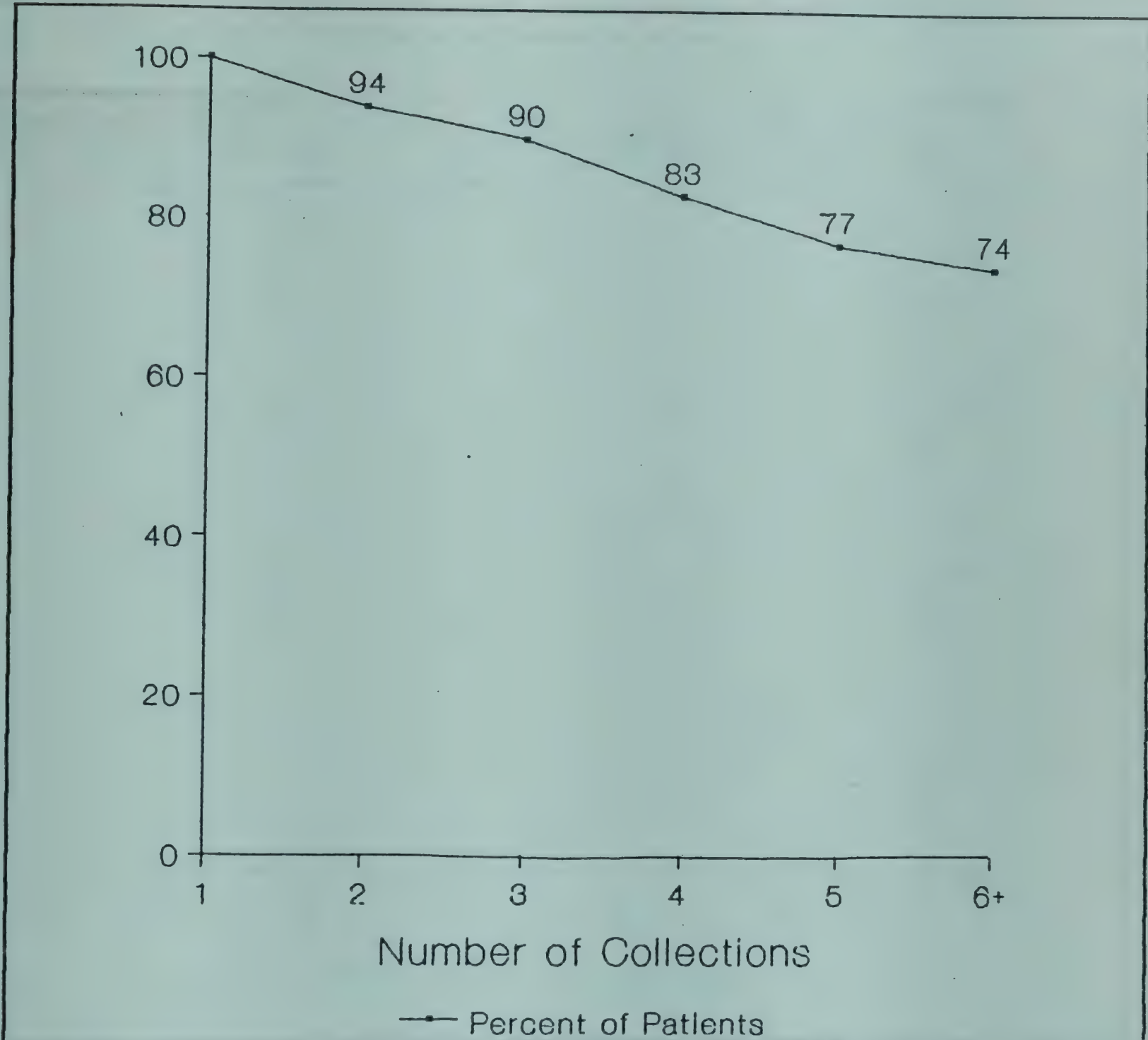
### 3. Cohort Analysis

NOTE ON COHORT ANALYSIS : Cohort analysis was undertaken in two of M1's TB clinics. There were 465 new patients put on treatment in Clinic #1 and 274 patients in Clinic #2 between January 1 and December 31, 1992. The analysis was however, performed on only 366 patients from clinic #1 and 226 patients from clinic #2, after excluding pediatric and extra-pulmonary cases. Since sputum negatives formed the bulk of the organisation's patients, treatment collection patterns was studied for these patients too. The results of the analysis are, thus, presented under six heads - sputum status-wise, clinic-wise and a combined analysis for the two clinics. While most patients had made fortnightly or three-weekly drug collections, some had made monthly collections. In an attempt to induce some uniformity, we converted all the weekly and fortnightly collection of drugs into monthly collections.



3.1 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON SCC IN CLINIC # 1 (1.1.92 to 31.12.92)

NUMBER OF ADULT PATIENTS : 119  
NUMBER OF PATIENTS INCLUDED : 117



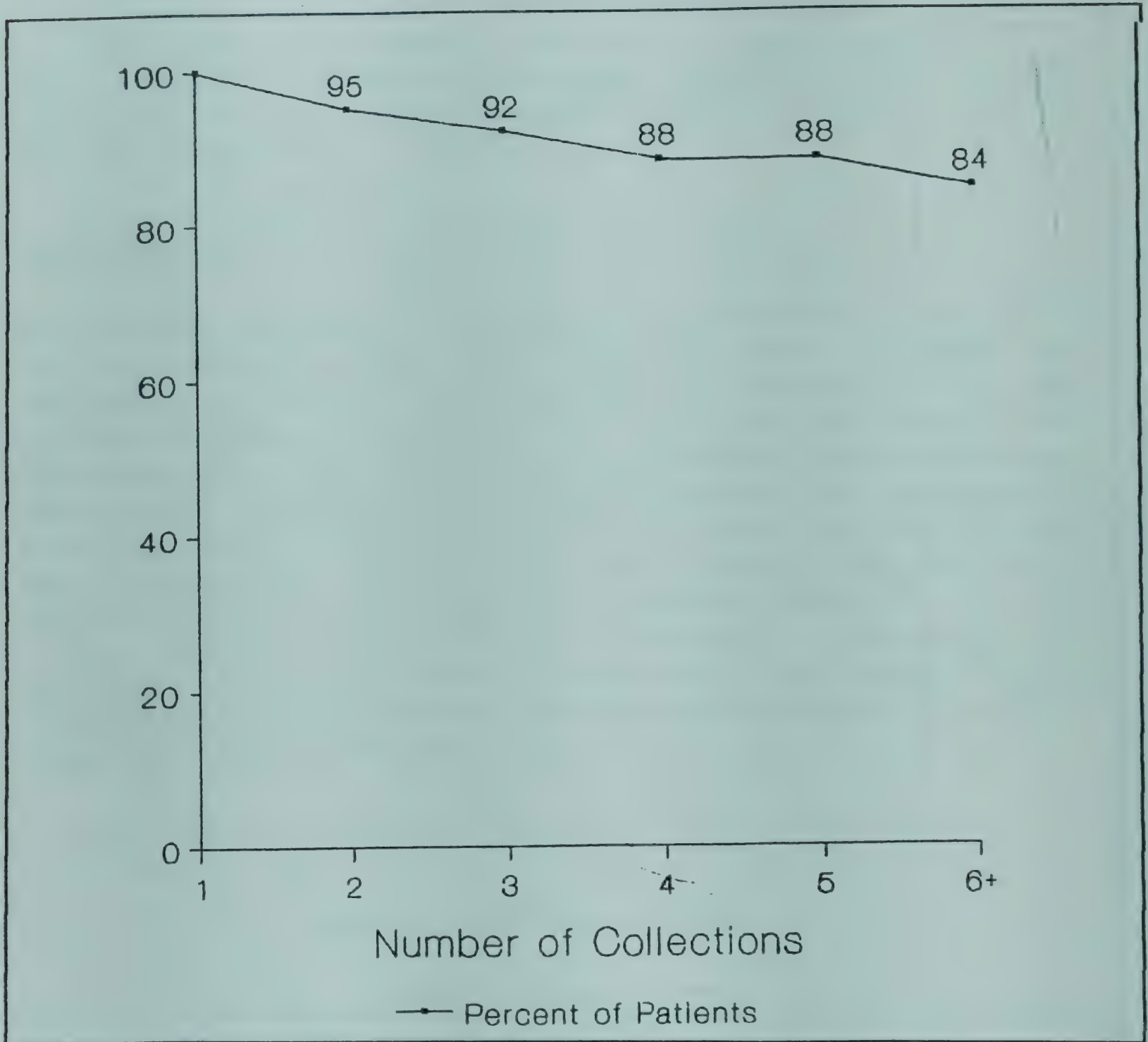
	DURATION OF TREATMENT (BREAKUP IN MONTHS)					
	1	2	3	4	5	6+
NUMBER OF PATIENTS	7	5	8	7	4	86
CUMULATIVE FREQUENCY	117	110	105	97	90	86
% OF PATIENTS TAKING DRUGS	100	94	90	83	77	74

OUTCOMES :	TOTAL	- 117	100% DRUG COLLECTION RATE	- 74%
	C.O.P.T.	- 82 (70%)	80% DRUG COLLECTION RATE	- 77%
	TRANSFERRED	- 2	CURE RATE	- 70%
	LOST	- 23		
	FAILURE	- 2		
	EXPIRED	- 8		



3.2 DISTRIBUTION OF SPUTUM NEGATIVE PATIENTS ON SCC IN CLINIC # 1 (1.1.92 to 31.12.92)

NUMBER OF ADULT PATIENTS : 253  
NUMBER OF PATIENTS INCLUDED : 249



	DURATION OF TREATMENT (BREAKUP IN MONTHS)					
	1	2	3	4	5	6+
NUMBER OF PATIENTS	13	6	11	1	8	210
CUMULATIVE FREQUENCY	249	236	230	219	218	210
% OF PATIENTS TAKING DRUGS	100	95	92	88	88	84

OUTCOMES :

TOTAL

-

249

C.O.P.T.

-

204 (82%)

TRANSFERRED

-

1

LOST

-

37

FAILURE

-

1

EXPIRED

-

6

100% DRUG COLLECTION RATE

-

84%

80% DRUG COLLECTION RATE

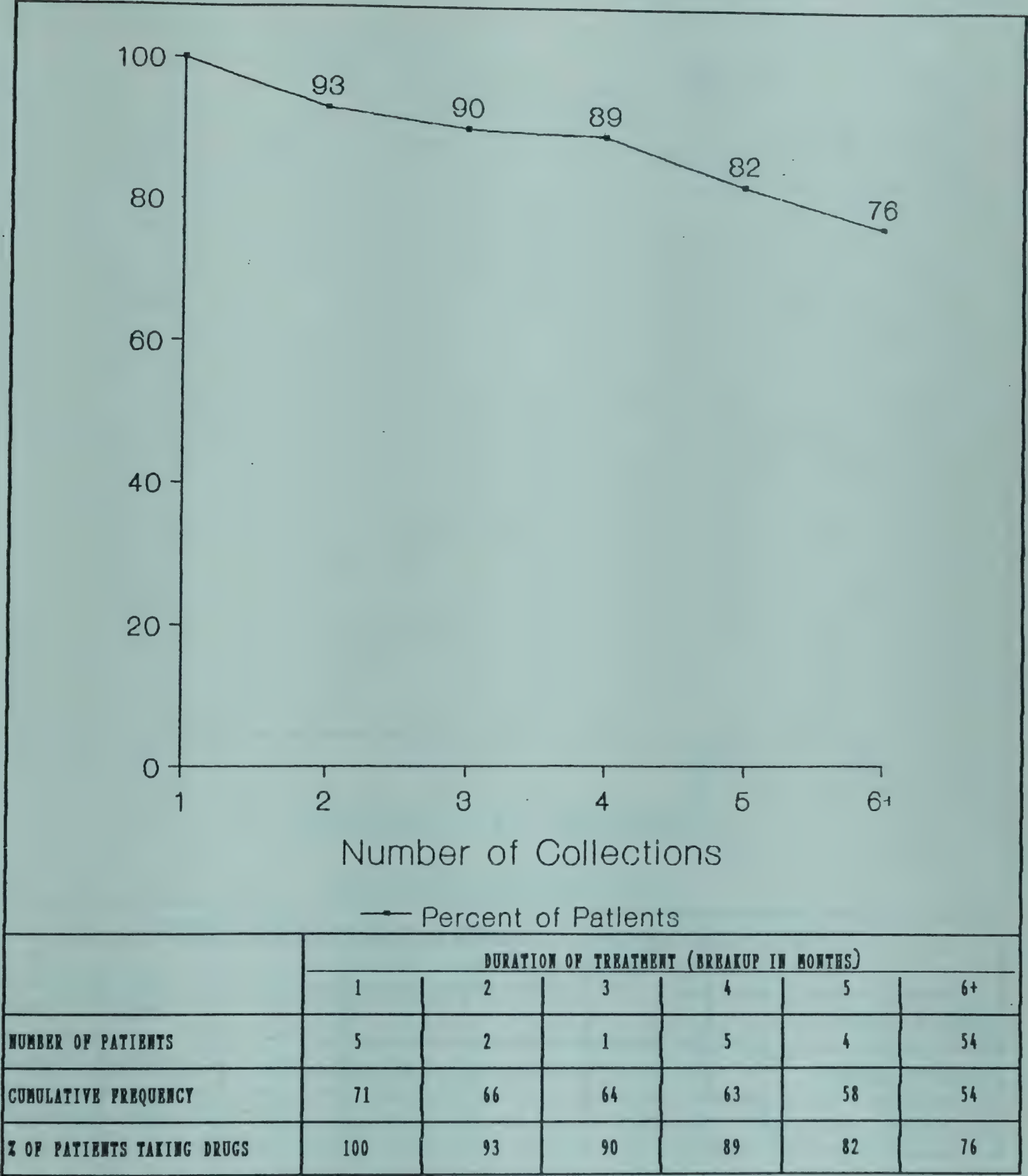
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88%



3.3 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON SCC IN CLINIC # 2 (1.1.92 to 31.12.92)

NUMBER OF ADULT PATIENTS : 71  
NUMBER OF PATIENTS INCLUDED : 71

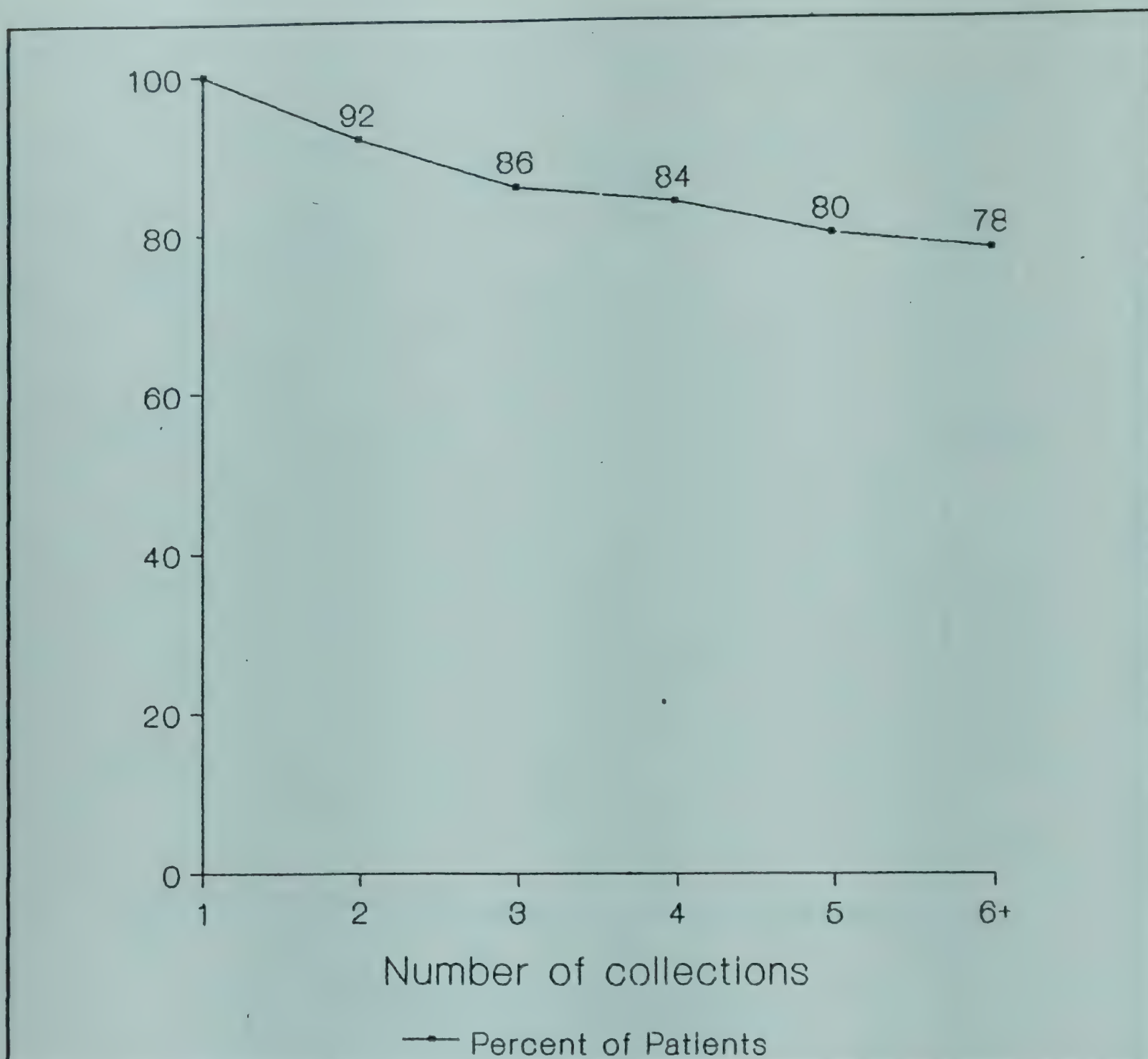


OUTCOMES :	TOTAL	-	71	100% DRUG COLLECTION RATE	-	76%
	C.O.P.T.	-	49 (69%)	80% DRUG COLLECTION RATE	-	12%
	TRANSFERRED	-	0	CURE RATE	-	69%
	LOST	-	16			
	FAILURE	-	4			
	EXPIRED	-	2			



### 3.4 DISTRIBUTION OF SPUTUM NEGATIVE TUBERCULOSIS PATIENTS ON SCC IN CLINIC # 2 (1.1.92 to 31.12.92)

NUMBER OF ADULT PATIENTS : 155  
NUMBER OF PATIENTS INCLUDED : 155

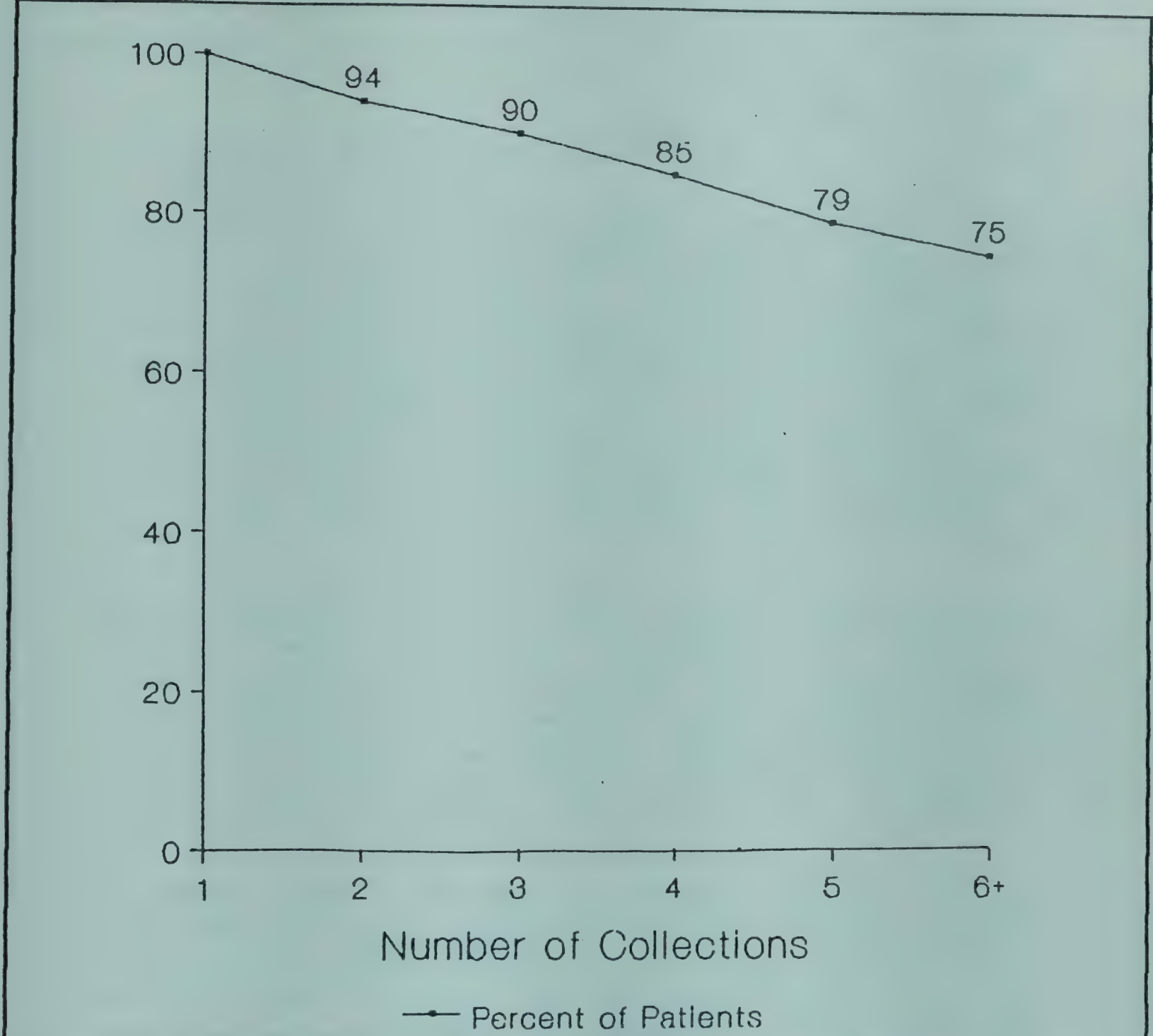


	DURATION OF TREATMENT (BREAKUP IN MONTHS)					
	1	2	3	4	5	6+
NUMBER OF PATIENTS	13	9	3	6	3	121
CUMULATIVE FREQUENCY	155	142	133	130	124	121
% OF PATIENTS TAKING DRUGS	100	92	86	84	80	78

<b>OUTCOMES</b> :	<b>TOTAL</b>	- 155	<b>100% DRUG COLLECTION RATE</b>	- 78%
	<b>C.O.P.T.</b>	- 118 (76%)	<b>80% DRUG COLLECTION RATE</b>	- 80%
	<b>TRANSFERRED</b>	- 0		
	<b>LOST</b>	- 35		
	<b>FAILURE</b>	- 1		
	<b>EXPIRED</b>	- 1		

3.5 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON SCC IN CLINICS # 1 & 2 (1.1.92 to 31.12.92)

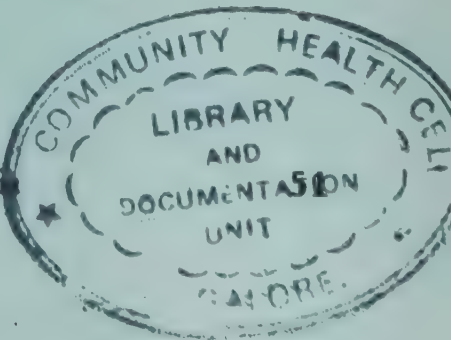
NUMBER OF ADULT PATIENTS : 190  
NUMBER OF PATIENTS INCLUDED : 188



	DURATION OF TREATMENT (BREAKUP IN MONTHS)					
	1	2	3	4	5	6+
NUMBER OF PATIENTS	12	7	9	12	8	140
CUMULATIVE FREQUENCY	188	176	169	160	148	140
% OF PATIENTS TAKING DRUGS	100	94	90	85	79	75

OUTCOMES : TOTAL - 188  
C.O.P.T. - 131 (70%)  
TRANSFERRED - 2  
LOST - 39  
FAILURE - 6  
EXPIRED - 10

100% DRUG COLLECTION RATE - 75%  
80% DRUG COLLECTION RATE - 79%  
CURE RATE - 70%

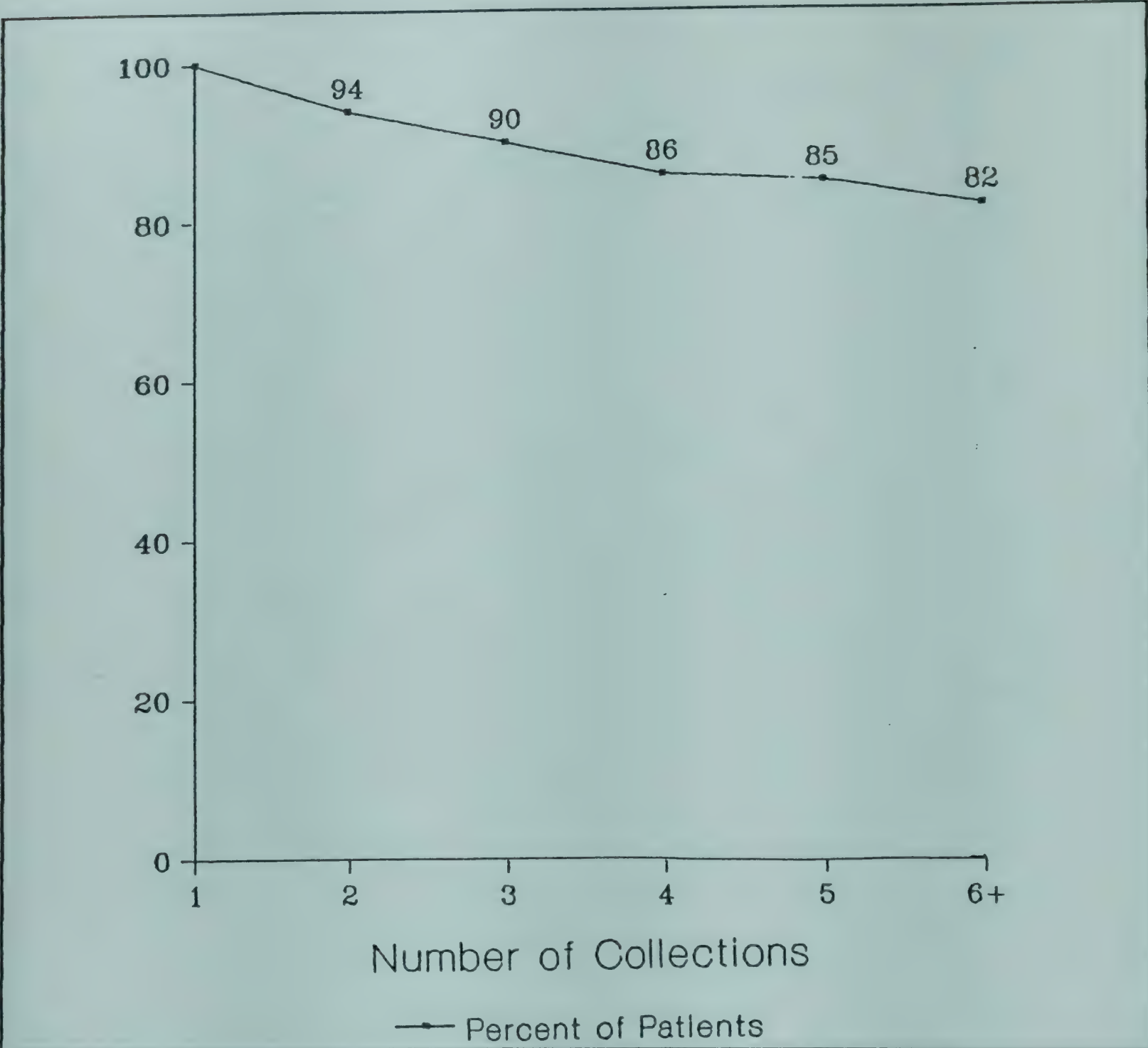


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3.6 DISTRIBUTION OF SPUTUM NEGATIVE PATIENTS ON SCC IN CLINICS # 1 & 2 (1.1.92 to 31.12.92)

NUMBER OF ADULT PATIENTS : 408  
NUMBER OF PATIENTS INCLUDED : 404



	DURATION OF TREATMENT (BREAKUP IN MONTHS)					
	1	2	3	4	5	6+
NUMBER OF PATIENTS	26	15	14	7	11	331
CUMULATIVE FREQUENCY	404	378	363	349	342	331
% OF PATIENTS TAKING DRUGS	100	94	90	86	85	82

OUTCOMES : TOTAL - 404

C.O.P.T. - 322 (80%)

TRANSFERRED - 1

LOST - 72

FAILURE - 2

EXPIRED - 7

100% DRUG COLLECTION RATE - 82%

80% DRUG COLLECTION RATE - 85%

## ORGANISATION M2

Year of Establishment : 1970  
Location : Three Talukas of Ahmednagar District  
Population Served : Approximately 2,50,000

### 1. Introduction

1.1 M2, a rural-based health and development organisation, is built upon the principals of decentralised planning, community participation and an integrated approach to health care. The (general) health programme is embedded in a range of socio-economic activities which are initiated and sustained by local residents through Mahila Mandals (Women's Clubs) and Tarun Shetkari Mandals (Young Farmers' Clubs). This integrated and decentralised approach followed an early realisation that the problems of health cannot be isolated from the (social and economic) problems created by a unequal society ordered along class, caste and patriarchal assumptions.

1.2 HEALTH PROGRAMME : M2 provides a range of curative, preventive and promotive health care services to residents of 53 villages through a three-tier structure comprised of *CHVs*, *Mobile Teams* and *hospitals*. The internal cohesion of this structure is achieved through a well orchestrated system of referrals and supportive mechanisms which take the form of regular interaction between workers at all levels, constructive supervision and periodic retraining.

1.2.1 First Tier - CHVs : The first tier is made up of CHVs. The training of local women for health work was an innovative strategy in the early 1970s and won the organisation many accolades. This strategy is built on the rationale that it divests the business of medicine of some of its mysticism and cuts through the barriers hindering access. CHVs are supported by other village volunteers like members of Mahila Mandals and Tarun Shetkari Mandals. They are the main link between the community and the Mobile Teams. At present, they number 75.

CHVs are entrusted with the responsibility of providing primary health care to residents of their villages. These include curative care for simple ailments, health education, biannual health surveys, Maternal and Child Health, Tuberculosis and Leprosy Control, Birth & Death registration, family planning motivation, etc. Apart from the health tasks that are assigned to them, they are also expected to take the initiative in starting Mahila Mandals and spearheading social interventions.

CHVs are selected by local residents and M2. A number of criteria are brought to bear upon this selection. Firstly, they should all be local



women; secondly, they should be middle aged (neither too young nor too old, having crossed the milestones of marriage and motherhood); thirdly, they should not be burdened with the responsibility of bringing up very small children; fourthly, they should be neither destitute nor affluent (lest the responsibility of health work be perceived as a job to be taken up for its monetary rewards) and lastly, they should be socially active and enjoy the support of their families. CHVs can belong to all castes; as it happens, though, many of them belong to lower castes (Dalits).

Once recruited, they are put through an orientation programme for one week followed by on-going bi-monthly retraining at the hospital. Training programmes are designed to impart technical information as much as to liberate them from caste and gender-based prejudices and disadvantages. CHVs are not paid a salary - they are encouraged to engage in other employment for wages - and the Rs.40 to 50 that they are paid during retraining programmes are intended to cover the cost of travel and to partly compensate for wages lost during the time.

**1.2.2 Second Tier - Mobile Teams** : Mobile teams are the link between the CHV and the hospital. They are comprised of a social worker and a para-medical worker. A publication by the founders of M2 describes the scope of their job. Accordingly, mobile teams are expected to (1) help organise local communities; (2) support CHVs and communities; (3) provide technical knowledge and skills; (4) train and follow up with CHVs; (5) act as a catalyst for government development programmes, particularly economic programmes; (6) coordinate the activities of the project; (7) arrange seminars on health, agriculture, economic development and (8) support and guide communities in their planning and implementation. Mobile teams make fortnightly visits to 23 villages and monthly visits to the remaining 30.

**1.2.3 Third Tier - Hospital** : The third tier provides those health services that are beyond the scope of the CHV and the Mobile Teams. M2 has a 30 bedded hospital with facilities for laboratory and radiological investigations, medical consultation, admission, obstetric & gynaecological care and surgery (including hysterectomy, laparotomy, hernias, appendicectomy, prostatectomy, amputations, lumpectomy, etc). Additionally, one of the sub-centres (SC) has diagnostic facilities and 15 to 20 beds. Referrals are made to these two centres; sometimes, referrals may also be made to private or government-run health centres.

General OPDs are run at these hospitals on a daily basis. Some of these are specialist OPDs, one run by an Orthopaedic doctor and another by an ophthalmologist. Six monthly figures for the period October 1993 to March 1994 show that the number of outpatients treated were 24,732 (that is, an average monthly figure of 4122). The hospital is utilised by people from both Project and non-Project Areas. One of the doctors reports that about 85% of the OPD attendance is accounted for by people from non-Project Areas.



1.3 At the heart of M2's existence is the desire to inspire change in the community (and, consequently, in their health status). However, this change has always been effected through consensus rather than confrontation with the power structure in the village. The leadership within M2 believes that change must be achieved through the demonstrable success of alternatives.

1.4 M2 is an organisation that has experimented - and fairly succeeded - in effecting alternative approaches to the problem of community health. However, no significant innovation has emerged in the recent past. Instead, the organisation has been concentrating on the task of sharing the vast experience and expertise gained over the years. A newly established Training Institute for Community Health and Population conducts short courses for development workers from India and abroad. So far, it has conducted two three-month courses for participants from countries like Latin America, South Africa and Asia.

Over the years too, M2 has seen both expansions and contractions. The expansions have been quite dramatic : a project area consisting of eight villages in 1970 swelled to 175 towards the late 1980s. However, as villages became increasingly self reliant, the need for M2's presence there appeared to be unjustified. As a result, M2 moved out of many villages after 1991. At present, it operates in 53 villages. Twenty three of these are earmarked for intensive activity while the remaining receive M2's peripheral support. These 23 villages also serve as demonstration centres for M2's training programmes.

## 2. Tuberculosis Control Programme

2.1 Since the outset, M2 has awarded great importance to the control of chronic illnesses like tuberculosis and leprosy. In accordance with its ideology of integration, these programmes - especially the Tuberculosis Control Programme - are a part of the general health programme. As a consequence, health workers devote only a part of their time for tuberculosis-related activities. The staff who contribute time for tuberculosis activities are CHVs, three Nurses, six para-medical workers and six physicians. Thus, 15 out of 48 paid employees and all 75 CHVs are involved in various ways in case finding, treatment, case holding, rehabilitation and health education.

2.2 The objective of the Tuberculosis Control Programme is to identify, treat and rehabilitate patients. The organisation targets the tuberculosis patient and not merely her/his disease. As a result, a host of social interventions go along with treatment : health education and advice allay superstitions and unfounded apprehensions, Mahila Mandals or Tarun Shetkari Mandals collectively tackle the economic problems aggravated the onset of tuberculosis by constructing houses, arranging for the schooling



of patients, etc. An impact study conducted in 1991 observes that M2 has succeeded in combatting the stigma surrounding the disease in the community.

The organisation accepts all patients suffering from tuberculosis into its programme. Considerations about age (ie. paediatric or adult) or nature of the disease (pulmonary or extra-pulmonary tuberculosis, sputum positivity or negativity) or residence (project area or non-project area) do not preclude access to the treatment process.

- 2.3 CASE FINDING : Case finding is both active and passive. Active case finding is conducted by para-medical workers and CHVs who, during house-to-house visits and biannual surveys, keep an eye out for classical symptoms of tuberculosis. Case finding via self reporting is also not uncommon as a natural fallout of greater awareness and access. These (suspected) patients are accompanied by CHVs to the hospital for diagnosis and treatment.

For residents of non-project areas, case finding is entirely passive. Suspected patients from among this group are identified in the hospital's OPD. Sometimes, confirmed tuberculosis patients approach M2 in the process of shopping around for treatment (this is perhaps why some patients are declared "cured" after two months of medicines). A majority of confirmed patients are residents of non-project areas. Out of 191 tuberculosis patients registered between January and December 1993, approximately 60% belonged to this group.

The diagnostic tests conducted to aid confirmation are X-Ray, Blood (ESR) and, occasionally, Sputum Examination. M2 places its trust on the results of X-Ray rather than the Sputum Examination. Two reasons are offered for this : firstly, there are problems with expectoration and secondly, a single sputum collection does not necessarily reveal positivity even if it exists. Diagnosis of tuberculosis is, therefore, based on X-Ray pictures, clinical examination and clinical history.

Diagnostic tests are conducted at the hospital and patients charged for them : Rs.85 is the cost of an X-Ray, Rs.5 covers the cost of the ESR test and Rs.15 is the price of the Sputum Examination. Occasionally, these tests are conducted for a subsidised fee (or for no fee) for certain patients. This decision is dependent on the assessment of CHVs. The results of diagnostic tests are made available to patients on the same day. They are repeated at the end of six months (or sooner if need be).

- 2.4 TREATMENT : Once confirmed, patients are put on regimens which generally conform to the principles of chemotherapy. These could be 3SHR/6HR, 3HER/6HR or the SR. The minimum duration of treatment is nine months. For patients in non-project areas particularly, regimes are geared too suit considerations of cost to be borne by patients and their access to a



medical facility (particularly pertinent prior to the inclusion of streptomycin). Pyrazinamide and Thiacetazone are not generally recommended due to their side effects. Anti-TB drugs are purchased by M2 from drug companies.

Drugs are given to patients in the project area for a nominal fee. According to M2 estimates, the monthly cost of SCC drugs, which is largely borne by the organisation is Rs.200. Residents of non-project areas are expected to purchase drugs either from the hospital's pharmacy (at the prevailing market rate) or from drug stores elsewhere. Sometimes, subsidies are offered. In general, the decision about how much patients will be charged is based on the assessment of CHVs and the concerned doctors. In addition to drugs, nutritional supplements are also given to patients wherever required.

In the project area, monthly supplies of drugs are generally routed through CHVs (who account for the money received by them). Patients are expected to return to the hospital at the end of six months for a clinical assessment. Patients from non-project areas, who do not have the facility of a health worker in their village, are either referred to other health centres or are given prescriptions or are given the option of returning to their hospital for remaining duration of treatment. Out of 115 tuberculosis patients from non-project areas identified between January and December 1993, 40 (ie.35%) were referred to health centres near their residences like Primary Health Centres (PHC) or Rural Hospitals for treatment and three were given prescriptions for the drugs they would purchase elsewhere.

- 2.6 CASE HOLDING : M2 assigns the responsibility of motivation and monitoring of tuberculosis patients (by monthly weight taking and periodic investigations) through the duration of treatment to CHVs. However, the nitty gritty of this strategy (in terms of the number of visits that will be made, etc.) are not immediately apparent. Patients from non-project areas do not receive follow up visits by CHVs. The absence of a case holding strategy is reflected in the comparative treatment outcomes (especially in the number of "cured" patients). Among the patients who drop out, migration is quoted as one of the causes.

The benefit of a case holding strategy is also demonstrated in the comparative pictures generated by the cohort analysis. While 57% of the tuberculosis patients from project areas complete eight months of treatment, only 13% from non-project areas do the same.

- 2.7 RECORDS AND REPORTS : Given the integration of health programmes, the maintenance of records for the Tuberculosis Control Programme receives as much importance as other programmes. With various demands being made on workers' time, record keeping tends to get a little neglected. This was certainly the case for the Tuberculosis Programme.



A register is maintained at the hospital with the names of patients, their residence, the number of monthly collections and the outcomes. This centralised information bank is periodically updated by CHVs for patients in the project area. For patients from non-project areas, this information is culled out from the case papers. Despite the access to information about the patient compliance in the project area, this information is not always transcribed into the register due to other pressing demands on the clerk's time. The concept of treatment cards does not exist.

Further, the terms used by the organisation to describe treatment outcomes (refer to Table 2) deviate from conventions. While the organisation uses the term "cured" to suggest the end of treatment, it is not clear whether this conclusion is reached after another round of investigations. In any case, the results of the second round of tests are not written in the register. It prefers to use the terms "referred" and "prescribed medicines" instead of transferred; "defaulter" instead of lost and "irregular" instead of defaulter.

The organisation used to receive some support in the past by way of drugs. Ever since this was refused by the organisation, it is not incumbent on them to maintain records in a set format nor send reports from time to time.

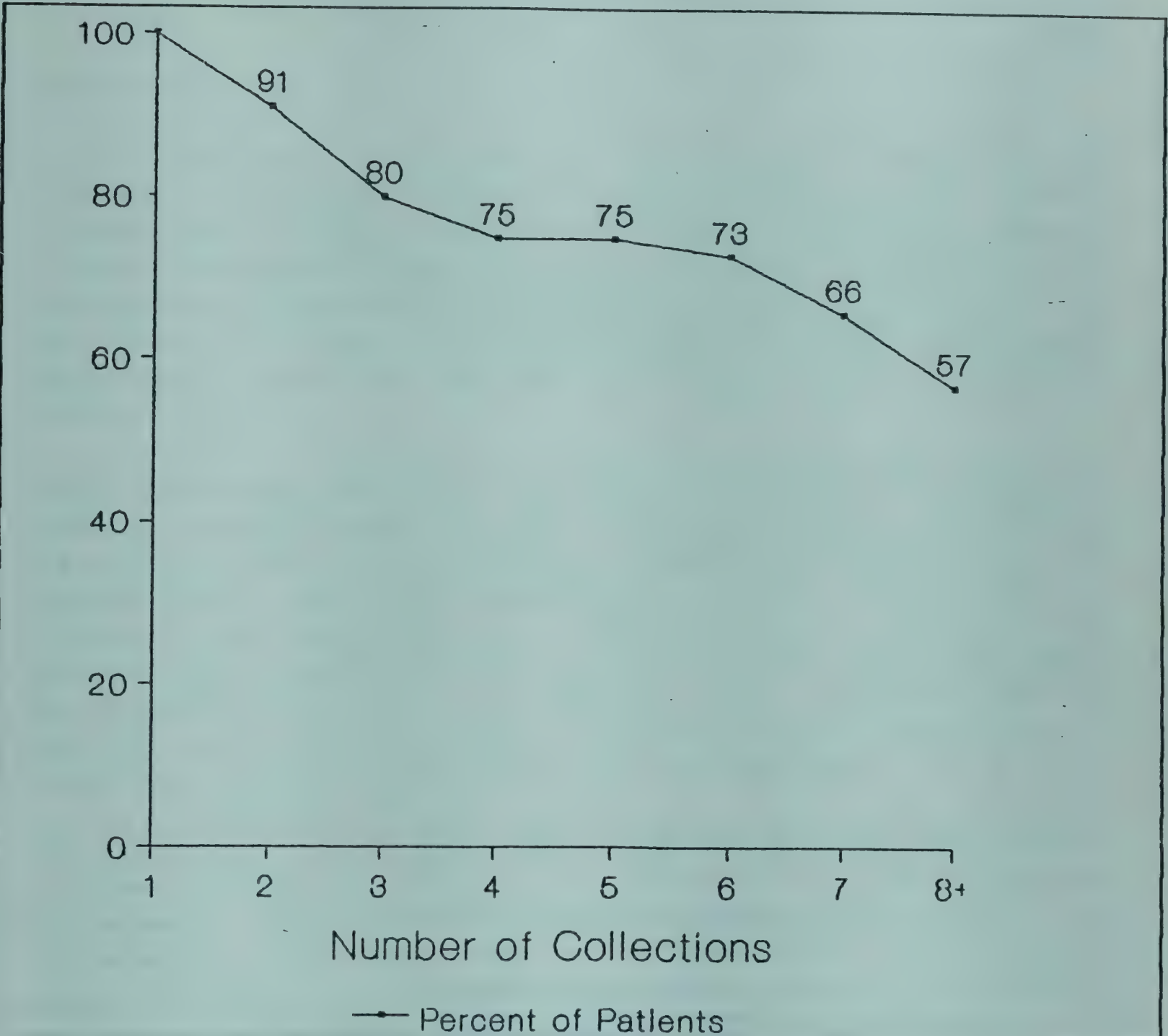
### 3. Cohort Analysis

NOTE ON COHORT ANALYSIS : The cohort for M2 was constituted of patients put on treatment between January 1 and July 31, 1993. A cohort for the year 1992 was not possible in view of the unavailability of records. A total of 116 patients were treated during this period. 16 patients were excluded from the analysis because eight were paediatric cases while there was insufficient information for the remaining eight. Information about sputum results were not routinely recorded in the records since the organisation does not place any emphasis on them. Hence, a separate analysis for these two groups was not possible. However, since information about drug collections was available separately for the patients from the project areas and the non-project areas, separate cohort analysis were done for the same.

There are 44 patients from the project areas and 56 from the non-project areas. 100% drug collection rate for the patients in the project areas is 57% and those for the non-project areas is 13%.

3.1 DISTRIBUTION OF TUBERCULOSIS PATIENTS IN THE PROJECT AREA (1.1.93 to 30.6.93)

NUMBER OF PATIENTS TREATED : 55  
NUMBER OF ADULT PATIENTS : 50  
NUMBER OF PATIENTS INCLUDED : 44



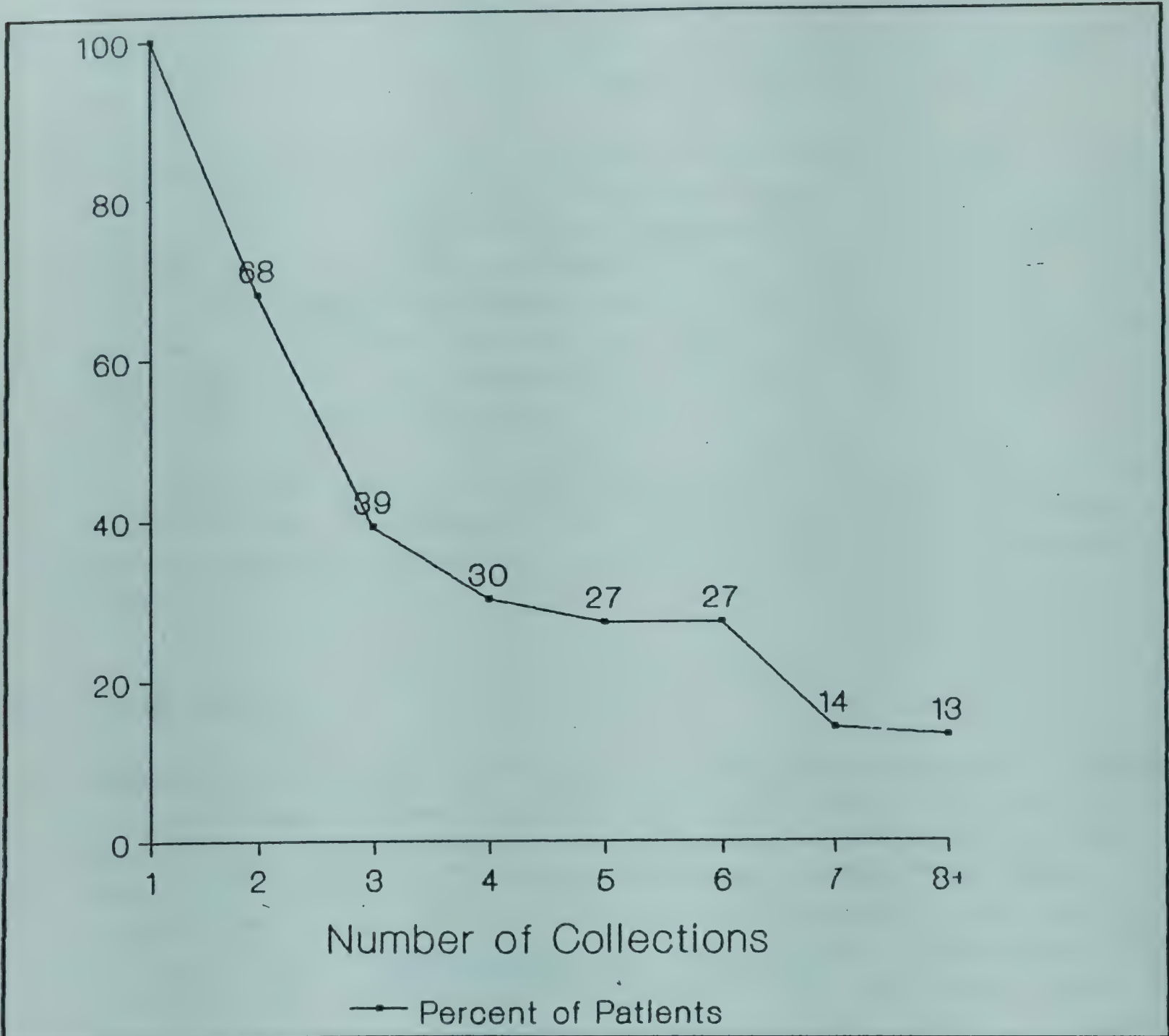
	DURATION OF TREATMENT (BREAKUP IN MONTHS)							
	1	2	3	4	5	6	7	8+
NUMBER OF PATIENTS	4	5	2	-	1	3	4	25
CUMULATIVE FREQUENCY	44	40	35	33	33	32	29	25
% OF PATIENTS TAKING DRUGS	100	91	80	75	75	73	66	57

OUTCOMES	TOTAL	-	44	100% DRUG COLLECTION RATE	-	57%
	C.O.P.T.	-	26 (59%)	80% DRUG COLLECTION RATE	-	73%
	TRANSFERRED	-	0			
	LOST	-	14			
	FAILURE	-	0			
	EXPIRED	-	1			
	NO RESPONSE	-	3			



3.2 DISTRIBUTION OF TUBERCULOSIS PATIENTS FROM NON-PROJECT AREAS (1.1.93 to 31.12.93)

NUMBER OF PATIENTS TREATED : 61  
NUMBER OF ADULT PATIENTS : 58  
NUMBER OF PATIENTS INCLUDED : 56



	DURATION OF TREATMENT (BREAKUP IN MONTHS)							
	1	2	3	4	5	6	7	8+
NUMBER OF PATIENTS	18	16	5	2	0	7	1	7
CUMULATIVE FREQUENCY	56	38	22	17	15	15	8	7
% OF PATIENTS TAKING DRUGS	100	68	39	30	27	27	14	13

OUTCOMES :

TOTAL

-

56

G.O.P.T.

-

8 (14%)

TRANSFERRED

-

18

LOST

-

29

FAILURE

-

0

EXPIRED

-

0

NO RESPONSE

-

1

100% DRUG COLLECTION RATE

-

13%

80% DRUG COLLECTION RATE

-

27%

## Organisation M3

Year of Establishment : 1950  
Location : One Municipal ward of Bombay

### 1. Introduction

1.1 M3 is an association of private practitioners (Family Physicians and Specialists) practicing in one of the oldest, busiest and most densely populated areas of Bombay. At present, the organisation has 401 members, of whom an estimated 100 are Specialists and 249 are Life Members. The constitution of the organisation impinges upon its functioning and its perspective; as a result, M3 initiates a host of medical interventions whose social content is signified by little more than a spirit of altruism.

The association was started with the express purpose of rendering medical relief to patients during an epidemic of cholera. In time, the scope of its activities have grown to include a Tuberculosis Control Programme, an Epilepsy Clinic, Immunisation Camps, health check-ups in schools and in villages, drug de-addiction, etc. These services are offered to the general public. In addition, the association conducts programmes which are intended exclusively for its members. These are regular lectures under the aegis of Continuing Medical Education and the occasional sports and cultural programmes (for members and their families).

1.2 The Association is an active body where exchanges take place continuously. Its Managing Committee, consisting of 53 members, is made up of eight Office Bearers, 39 members and six special invitees. The constitution of this committee could change every year following a vote; what happens in actual fact, however, is that few of the members change while a majority continue on the Committee. Several members of the Managing Committee meet every Wednesday afternoon to review and discuss programmes of the Association.

### 2. Tuberculosis Control Programme

2.1 APPROACH : The Tuberculosis Control Programme was inaugurated during 1982 with an initial donation from a local trust. The programme takes off on the criticism that government-run programmes fail due to inadequate rapport between patients and health care providers. By comparison, family physicians, who build up good rapport with their patients, are more suited to participate in tuberculosis control. M3 thus attempts to capitalise on its potential ability to build that rapport and to rationalise treatment practices against tuberculosis. The tackling of social problems which



might be created or aggravated by the disease is, however, conspicuously absent.

The stated objectives of the Programme are, firstly, to achieve rapid sputum conversion so as to restrict the spread of infection; secondly, to achieve cure in the shortest possible time using SCC and lastly, to detect all infected family contacts and treat them.

2.2 PROCESS : The services provided under M3's Control Programme are open to all its members for their patients suffering from tuberculosis. The programme is run through a Tuberculosis Centre founded in a member's dispensary. Confirmed patients are enrolled into the programme (registrations are centralised) and started on treatment. A social worker dispenses drugs and maintains records which are occasionally collated and presented.

2.3 STAFF : The only appointment for the Tuberculosis Programme is that of the social worker who works for two hours each day. Despite the designation awarded to her, the social worker engages in activities that are more clerical than social. Her responsibilities include liaising with the Municipal Corporation, distributing drugs to patients and maintaining records. The services of the referring member-doctors and the treating doctor are obtained without any monetary reimbursement. M3, therefore, does not bear a heavy outlay on staff salaries. The lone employee is paid a mere Rs.350 per month.

2.4 CASE FINDING : Case finding is passive and routed through member-doctors. Patients with complaints approach their Family Physicians who may belong to the Association. Suspected patient are sent to government-run Diagnostic Centres or centres belonging to members for radiological (X-Ray) and laboratory investigations [sputum examination and blood (CBC) test]. Patients are expected to bear the cost of the first series of diagnostic tests which are repeated at the end of the intensive phase and, once again, at the end of treatment. The cost of follow-up investigations is borne, however, by M3. Results of diagnostic tests and X-Rays are kept at the TB Clinic for the duration of treatment.

Once diagnosed as suffering from tuberculosis, patients are referred to the clinic for treatment. For this referral to be at all possible, a number of criteria need to be fulfilled. Firstly, patients should be fresh cases. They cannot be chronic although they could be relapse cases and they should not have received treatment elsewhere for more than three to four weeks prior to registration with M3. Secondly, they should be non-affording. This judgement is made by the referring member-doctors on the basis of their past association with them and their families. Thirdly, they should be neither below 15 years nor older than 60 years. Lastly, they should be suffering from pulmonary tuberculosis and their sputum results should indicate positivity. These criteria, scientifically



defined as they are, limit the patient load. As a result, the annual patient load does not exceed 200.

It is observed that only about one tenth of all members of the association refer tuberculosis patients requiring treatment. In 1993-94, out of 410 members of the association, only 36 referred tuberculosis patients requiring treatment. While one doctor sent as many as 23 patients, most sent only one patient. The average number of patients sent by the referring doctors during the year was two.

2.5 TREATMENT : Patients who meet the requirements of the Programme are registered. Once this is done, they are put on a six to eight month regimen of 2SHR or 2HER/4HR or 6HE. Ethambutol is used as a substitute in case of intolerance to Streptomycin or Rifampicin and for all patients over 50 years. Patients with complications are referred to an expert panel of doctors consisting of specialists, pathologists and radiologists whose services are freely available to the referring doctors.

Patients are expected to convert from sputum positivity to sputum negativity at the end of the intensive phase. Those who do not respond to treatment are referred for a sputum culture to the State Anti-Tuberculosis Association-run clinic.

Medicines are dispensed free of cost on a monthly basis at the TB Clinic. For Streptomycin injections, however, patients are required to collect vials from the TB clinic and return to their family physicians who are obliged to give these injections at no cost. These doctors are also expected to give the medicines required to treat minor illnesses during the period of treatment and examine close contacts in the family.

Once patients are recorded as COPT, the organisation keeps track of them through a quasi-follow up system. In order to offer patients something concrete, the association recommends 40 injections of B Complex and Calcium which the referring member-doctor gives, once more, at no cost. On the whole, referring doctors are expected to invest Rs.500-600 in the treatment of each of their patients. However, they are more than adequately recompensed by the good will that prompts (grateful) patients to induce others to utilise their services for general treatment. Therefore, although there is a degree of charity involved, this is only ploughed back into the profitability of the referring doctor's practice.

The organisation receives Anti-Kochs Treatment (AKT) drugs from the Municipal Corporation which fulfills approximately 10% of their annual requirement. In order to make up for shortfalls, the association purchases medicines from drug companies whenever needed. The person-in-charge of the Tuberculosis Programme reports that the annual outlay on drugs is Rs.150,000.



2.6 CASE HOLDING : M3 made an attempt in the late 1980s to understand the factors that caused patients to default. According to M3, defaulters were more commonly observed from among patients who were referred by doctors practicing outside the ward area and by some consultant-members. Heading the list of defaulters were alcoholics and rootless individuals bereft of facilities for boarding and lodging.

In response to these findings, the association, reportedly, requested consultants and doctors not practicing in the ward to route their patients through other practitioners in the area who would be responsible for giving injections and ensuring treatment completion. A second measure was to ask for a guarantee from patients, their relatives, employer or family physician. This sometimes takes the form of a refundable deposit. A third outcome of this appraisal was the recruitment of a social worker who has been assigned the responsibility of identifying defaulters and informing the referring doctor so that s/he might try to bring patients back into the mainstream of treatment. This exercise is done once a month and should, ideally, be an easy task. However, since records are not always updated, the ease of this enterprise is not assured.

2.7 RECORDS AND REPORTS : On paper, M3 has a foolproof system of record keeping. A register somewhat similar to the BTC is maintained with details about the name of the serial number, referring doctor, name of the patient, age, weight, date on which X-Ray, sputum examinations and blood tests are done and their results. The last column is intended for additional remarks. Treatment cards, supplied by the City Tuberculosis Programme, are also maintained for registered patients under treatment. The register and the cards are maintained at the central registration-cum-treatment centre.

Despite this, the record keeping is not up-to-date. The social worker follows a system of routinely entering the names of patients, their age, sex, registration numbers and dates on which they collect their drugs in a notebook and not directly on the treatment cards. The task of updating treatment cards requires time. However since the social worker is only a part timer, she is not always in a position to engage in this self created activity. Consequently, there is a huge backlog. The cards are usually bunched up and arranged in the order of their serial numbers and not according to the date on which patients are expected to come for collecting their drugs. This and the incomplete records together make the identification of defaulters a virtually impossible task.

Since M3 receives support from the government by way of drugs, they are expected to submit regular reports to the Municipal Corporation.

### 3. Cohort Analysis

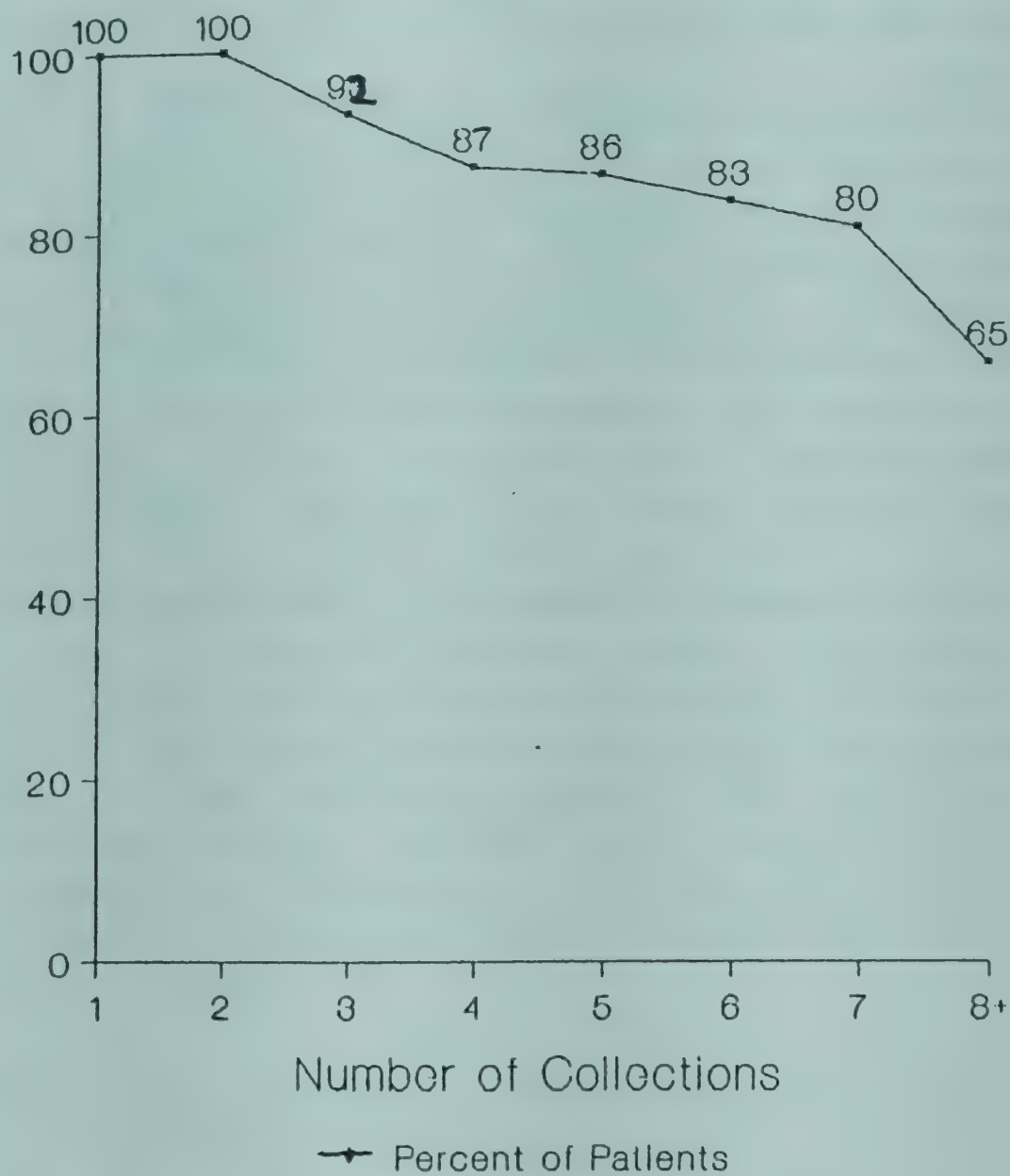
NOTE ON THE COHORT ANALYSIS OF M3 : In the following section is presented two cohort analyses of M3. One is for the period between January to December 1992 and the other is a half yearly cohort for the period January to June 1993. The results of the two show vastly different trends : the 1992 cohort suggests that the organisation has been able to achieve a 83% completion rate while the second shows that it is unable to ensure that more than 58% are seen through to the end of treatment.

The half yearly cohort was conducted during our first visit to M3. Records were incomplete. In order to bring it into a form that would facilitate the analysis, we updated records by transcribing the information from the social worker's notebook. The 1992 treatment cards were, at that time, untraceable. Subsequently, these were traced by M3 and given to us for analysis after they were updated by the social worker.



### 3.1 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON SCC (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 189  
 NUMBER OF ADULT PATIENTS : 186  
 NUMBER OF PATIENTS INCLUDED : 186

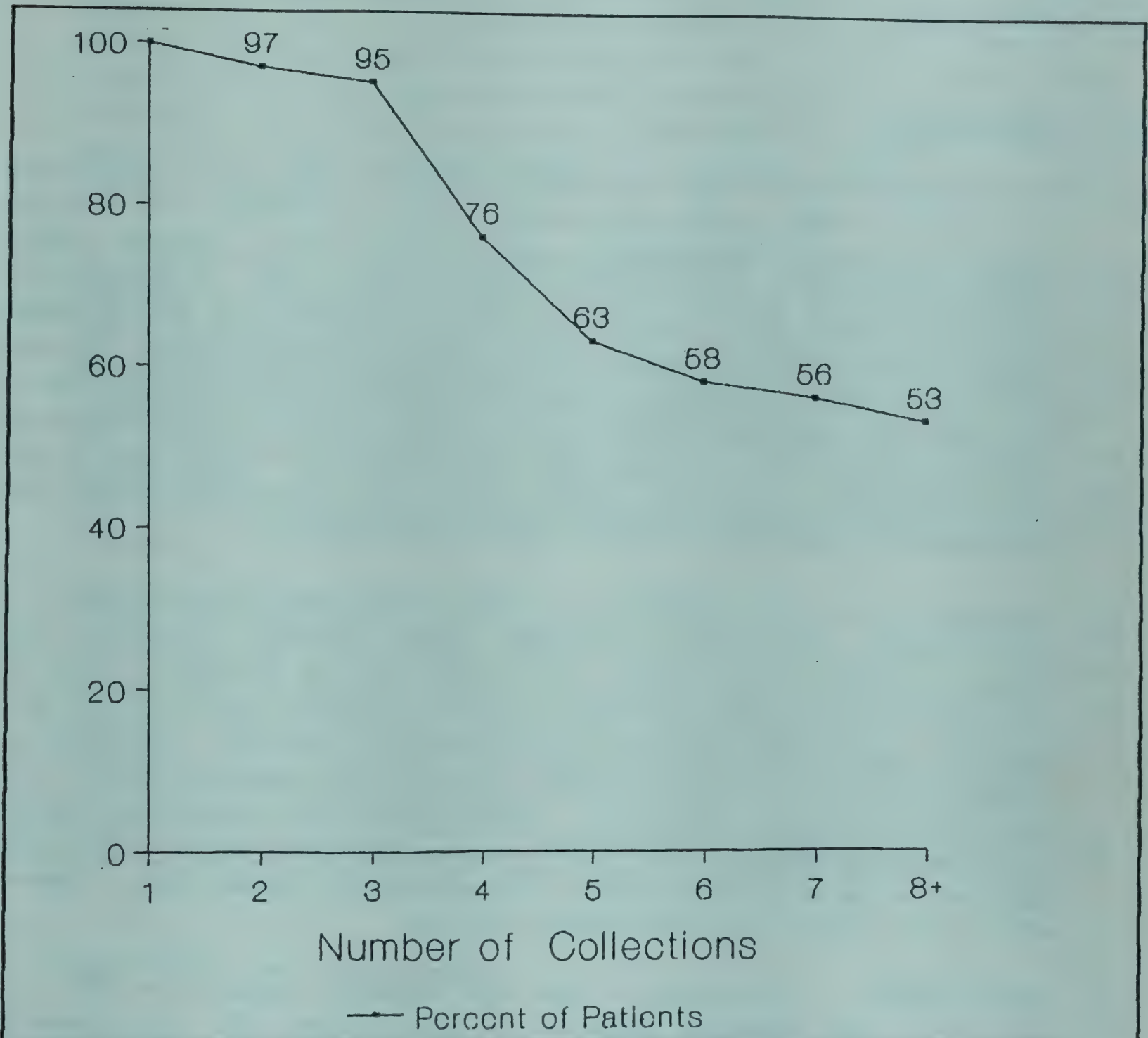


	DURATION OF TREATMENT (BREAKUP IN MONTHS)							
	1	2	3	4	5	6	7	8+
NUMBER OF PATIENTS	1	13	11	2	5	5	28	121
CUMULATIVE FREQUENCY	186	185	172	161	159	154	149	121
% OF PATIENTS TAKING DRUGS	100	100	92	87	86	83	80	65

OUTCOMES : TOTAL	- 186	100% DRUG COLLECTION RATE	- 65%
C.O.P.T.	- 139 (75%)	80% DRUG COLLECTION RATE	- 83%
TRANSFERRED	- 0	CURE RATE	- 75%
LOST	- 36		
FAILURE	- 0		
EXPIRED	- 0		
NO RESPONSE	- 11		

3.2 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON SCC (1.1.93 to 31.6.93)

NUMBER OF PATIENTS TREATED : 62  
NUMBER OF ADULT PATIENTS : 62  
NUMBER OF PATIENTS INCLUDED : 62



	DURATION OF TREATMENT (BREAKUP IN MONTHS)							
	1	2	3	4	5	6	7	8+
NUMBER OF PATIENTS	2	1	12	8	3	1	2	33
CUMULATIVE FREQUENCY	62	60	59	47	39	36	35	33
% OF PATIENTS TAKING DRUGS	100	97	95	76	63	58	56	53

OUTCOMES : TOTAL - 62

C.O.P.T. - 13 (21%)

TRANSFERRED - 1

LOST - 47

FAILURE - 1

EXPIRED - 0

100% DRUG COLLECTION RATE - 53%

80% DRUG COLLECTION RATE - 58%

CURE RATE - 20%



## Organisation M4

Year of Establishment : 1987  
Location : Two suburbs in Bombay  
Population Served : 75,000

### 1. Introduction

- 1.1 M4, a community-based women focussed organisation, locates its activities in two slum colonies in the north eastern suburbs of Bombay. Its on-going concerns encompass a HEALTH PROGRAMME the constituents of which include a daily General OPD (with a daily patient load of 50 to 60), a Tuberculosis Control Programme and a Maternal and Child Programme; an EDUCATIONAL PROGRAMME including non-formal and vocational education for women between the ages of 14 and 20 years, a balwadi and general awareness building activities in the community; and COMMUNITY DEVELOPMENT which includes regular participation in a Mahila Mandal, Cultural Programmes to commemorate certain days of the year, individual counselling and mobilisation for time-bound issues like the demand for kerosene in Public Distribution Outlets.
- 1.2 These activities are conducted by a staff of 17 members consisting of a social worker, two doctors, four MPWs, three community volunteers, two accounts persons, two teachers, one clerk and two helpers. With the exception of the General Secretary and an Accounts Clerk, all of M4's employees are female and almost always from the community. The MPWs and Community Volunteers were originally recruited for community work. Over time they have been trained to conduct health activities by various individuals and agencies like the MO running the organisation's OPD, other NGOs and social work institutions. Retraining also takes place. However this is not an on-going and regular activity.
- 1.3 BRIEF HISTORY : Although M4 came into being as recently as 1987, its presence in the community predates its registration. M4 is a truncated version of Organisation 'A' whose establishment in 1976 was intended to mobilise the demands of a slum community just ousted from the land that it had occupied for 24 years and resettled on (what was) a marshy plot. A health centre had been set up in response to the need for curative care. In time, the health infrastructure was expanded to include five mini-health centres (each run by a nurse and a Community Health Worker (CHW)) and a main centre which dealt with referrals. However, health was not a primary objective then as the demand for basic civic amenities was imbued with a greater sense of urgency.

When this organisation decided to close down its operations in 1986, six of its employees who believed in the utility of their presence created M4, an NGO with a new name and slightly altered objectives. Their inheritanc-



es included the choice of location, infrastructure, key staff and a credible presence in the community.

M4's health programme differs qualitatively and quantitatively from the programme conducted under the aegis of 'A'. Changed social conditions account for this. Given the availability of alternative sources of medical care (consisting of an estimated 60 GPs, an Urban Health Centre, a Municipal Maternity Home and another NGO offering services for patients suffering from leprosy) and people's geographic and economic access to them, it no longer regards itself as a provider of services but as a promoter of health.

- 1.4 As it stands today, M4 is a small organisation. This is the outcome of a deliberate decision at the root of which lies the belief that it is only such a group that can be active, flexible and remoulded to suit the times. The leadership within M4 is willing to contemplate macro-level changes and to refurbish the organisation and its activities in response to these. This flexibility of ideas and functioning is a noteworthy feature of the organisation. It is possible, therefore, that the priorities that have been set out at present, which are health and education, may be altered in future.

Another characteristic feature of the organisation is the level of interaction and consultation between staff at all levels of planning. Perhaps this is possible because of the size of the organisation and its un-bureaucratised mode of functioning. The staff meet in groups on a regular basis. The MPWs meet once a week to plan the programme of activities for the following week and to divide tasks between themselves. Meetings of the entire staff also take place on a quarterly basis during which activities are reviewed and plans for the next quarter are made.

## 2. Tuberculosis Control Programme

- 2.1 APPROACH : M4's Tuberculosis Control Programme was initiated in 1982. The need for such a programme was recognised when a random survey of defaulters in the project area revealed that the major impediments to treatment were provider-centred. Thus, from an operational point of view, the programme has attempted to minimise the inconveniences that hinder the successful completion of treatment. In order to do this, M4 takes on the role of a facilitator between patients and the (public) health services.

The patient occupies the centre-stage and M4's interventions (as we shall subsequently see) are intended to support them, both clinically and socially, during the course of treatment. The numerous social, economic and psychological problems that are created or aggravated by the disease are tackled through individual or group education and counselling. These sessions are presided over by the doctor. The long term objective of these



sessions is to create a cadre of informed individuals who can, in turn, become TB educators in their own areas. Counselling, on the other hand, is an occasional and need-based activity that is ably handled by the doctor and the MPWs.

M4 works in close association with the Municipal Corporation-run Tuberculosis Control Programme (without taking over any of its primary responsibilities). The success of this enterprise is crucially hinged on its rapport with the public health services.

M4 prefers to work in conjunction with an ATC in Central Bombay despite the relatively longer (geographical) distance because of the cooperation of the staff (which allows M4 to function as it does) and its reliable drug supply.

M4 takes on the responsibility of identifying suspected patients and following up their treatment. However, it depends on the ATC for diagnostic tests, drugs and follow-up investigations.

- 2.2 STAFF : M4's Control Programme is managed by a small team comprising a doctor and two MPWs. The former takes on the responsibility of liaising with the City Tuberculosis Programme, providing general medical care, counselling and community education. The latter assist the doctor to run the clinic, conduct follow-up visits, health education and community organisation.

Since the Tuberculosis Programme is integrated with the general health programme, the MPWs devote only part of their time for tuberculosis-related activities. For the rest of the time, these workers are expected to manage the drug counter at the general OPD, handle bank work, participate in the Mahila Mandals, etc. The doctor, on the other hand, comes in thrice a week and works exclusively for the Tuberculosis Programme.

- 2.3 PROCESS : M4 engages in activities that go towards case finding, treatment and case holding. However, unlike other programmes, these aspects are never simultaneously handled but are broadly assigned to different time slots during the week in a staggered fashion. Accordingly, M4 serves as an identification centre on Mondays, a registration cum drug distribution and health education centre on Wednesdays and a record keeping centre on Thursdays. During the remaining times, follow-up home visits and trips to the ATC are made. This weekly calendar is not rigid; consequently, patients who cannot make it to the clinic on the recommended day are accommodated whenever they come.

Clinics are run by the doctor and the MPWs. A personal interest in the welfare of patients results in cordial, warm and comforting interactions in the clinic. Defaulters with lame excuses are chastised by the doctor



or the MPWs.

- 2.4 CASE FINDING : M4 accepts all patients from the project area into its programme but particularly those who are economically disadvantaged. Case finding begins with patients approaching the clinic with health complaints (some patients are routed through the general OPD). A majority of the patients report directly to the clinic while a few come with referral notes from private practitioners (including consultants) or the Urban Health Post. Suspected patients are identified on the basis of a physical examination by the doctor. Between January and December 1992, 515 such patients were identified.

Newly identified (suspects) patients are then asked to assemble on the next day and accompanied by the MPW to the ATC where an x-ray and sputum examination is conducted. The results of these diagnostic tests are handed over to the MPW/doctor on the following Tuesday. A conference between M4's representative and the MO of the ATC takes place wherein the diagnosis and suggested line of treatment are discussed. Therefore, it takes one week before a suspected patient is started on treatment. Since diagnostic tests are mostly conducted at the ATC, patients do not incur any expenditure on it. Some patients (like those suffering from extra-pulmonary tuberculosis) are referred to trust-run or privately-run laboratories for investigations where tests are offered for a reduced fee. This procedure is also followed whenever there are problems with the diagnostic facilities at the ATC. Sometimes, patients themselves ask to be referred to a private laboratory. M4 is not too particular about where diagnostic tests are done, although they have identified a few preferred centres which they recommend to patients.

Between January and December 1992, 108 (or 21%) of the patients suspected by M4 were diagnosed as tuberculosis patients - 25% were sputum positive, 65% X-Ray positive and 10% suffered from extra-pulmonary tuberculosis. A surprising finding is the rather large proportion of paediatric patients (35 out of 108, roughly one-third, were children). Patients are registered both at M4 and at the ATC.

- 2.5 TREATMENT : Confirmed patients are started on ATC advised regimens. Usually, SCC is advised for sputum positive patients and extra-pulmonary patients (the regimen being 2SHRZ or EHRZ/4HR or 6HE). SR are recommended for sputum negative patients. Drugs are obtained from the ATC by M4's health workers on behalf of registered patients during their weekly trips on Tuesdays. Requests for drugs for paediatric patients are also made. These are dispensed to patients on Wednesday afternoons. Patients or their representatives are given drugs for a fortnight.

M4 compensates patients during drug shortages by purchasing and distributing drugs at cost. However, M4 expects patients to put in their contribution by purchasing half the number of required drugs. The



decision about which drug needs to be purchased is taken by the doctor while giving due consideration to the patients' paying capacity. The treatment process is continuously monitored by the doctor with the help of follow-up investigations conducted at the end of the intensive phase and at the end of treatment.

- 2.6 CASE HOLDING : M4 has a case holding strategy which comprises of motivation through health education, counselling, reprimands and follow-up home visits. All patients are visited at least twice during the course of their treatment by the doctor and any one of the MPWs. At the outset of treatment, moreover, M4 takes a deposit which is refundable to all patients at the end of treatment except dropouts. This amount is in the range of Rs.25 to Rs.400. The deposit is intended to serve as a financial guarantee and as a tool to stimulate discussion in the patients' family about tuberculosis.

M4 maintains a duplicate set of treatment cards which are used to identify defaulters. These are kept at the clinic while patients are given small diaries on which the expected date of their next visit is recorded. MPWs take on the responsibility of identifying defaulters and visiting them in their homes. This is done every week and the distribution of patients needing follow-up takes place in weekly meetings in a spirit of give and take.

Case holding efficiency of an organisation can be best appreciated through a cohort analysis. However, this exercise was not possible for M4 (refer to Section 2.8 for an explanation). If one goes by treatment outcomes, M4 shows a treatment completion rate of 55% to 60%. However, these patients were taking drugs for longer periods of time than required under the suggested regimen. Therefore, the criticism that can perhaps be made is the one of over-medication of half the patients on treatment.

- 2.7 RECORDS AND REPORTS : M4 subscribes to a system that includes the maintenance of a register and treatment cards. The register contains information about the patients' name, date of visit, new/old patients, case history, referral source and remarks. Once confirmed, patients are assigned treatment cards which are designed, printed and maintained by M4.

The records, though not entirely flawless, does provide quite a good deal of information. MPWs spend one day (Thursdays) on updating records. The time thus spent on an essentially duplicating activity is, perhaps, unnecessary.

- 2.8 ANALYSIS OF SECONDARY DATA : Out of 108 patients started on treatment during the period January 1 to December 31, 1992, 63 records were considered for analysis - 39 were pediatric cases and seven were suffering from extra-pulmonary tuberculosis. Out of these 63, 18 patients were sputum positive and 45 patients were sputum negative. The patients were

further divided as per regimen - 10 sputum positives on SCC and eight on SR, and 17 sputum negative patients on SCC and 28 patients on SR. Since the numbers were too small in each group the analysis has been restricted to treatment outcomes of sputum positives and negatives.

**Treatment Outcomes of Sputum Positives (N=18)**

COPT	- 10 (55%)
Lost	- 6
Expired	- 2

**Treatment Outcomes of Sputum Negatives (N=45)**

COPT	- 27 (60%)
Lost	- 13
Transferred	- 3
Expired	- 2



## Organisation M5

Year of Establishment : 1931  
Catchment Area : Southern and Coastal Maharashtra

### 1. Introduction

1.1 M5, an institution affiliated to and governed by the Regional Board of Health Services of the Church of North India, is sited on a 105 acre campus in a district in Southern Maharashtra. It is an old and well-known hospital which provides in-patient and out-patient care for the treatment of respiratory diseases. In addition, M5 conducts training for medical students specialising in the study of tuberculosis and chest diseases (through the two years' post-graduate training programme or the three years' MD Programme) and runs a rehabilitation and training centre for the physically handicapped.

1.2 The hospital was originally intended to be a sanatorium. Its early therapy recommended little more than a "spring bed with plenty of patience" and its target was the potentially vulnerable group of mill workers from the erstwhile Bombay Province. Over the next four decades, the institution grew out of the mould of a sanatorium and the scope of its activities expanded to include surgical procedures like thoracoplasty (in the 1940s), pulmonary resection (first attempted around 1948), cardio-thoracic and vascular surgery like its first close mitral valve operation (on 6 August 1958) and its first successful open heart surgery (on 20 December 1961). In 1963, the Sanatorium was renamed as a Chest Hospital to highlight its expanded function as a cardio-thoracic surgical centre. The institution continued to flourish for another decade (with patients coming from far flung places) until non-availability of staff and rising costs forced a closure of its cardio-thoracic service. Since then, the hospital has retained its name but has reverted, for all practical purposes, to a sanatorium and its operation theatres now lie vacant and unused.

1.3 M5 has facilities for radiological and laboratory investigations, medical consultation, treatment and indoor admission. At one time, the hospital had a bed strength of 450. However, at present, this number has shrunk to 250 (an average of 20% of which lie vacant). These are distributed between (male and female) general wards, four bedded rooms, a recovery side room, private rooms, independent cottages and an Intensive Respiratory Care Unit. The practise of charging patients for medical services adopted early on continues to the present day. With the exception of 25 beds (which are reserved for employees of the State Transport Company), the remaining are maintained by user charges. Patients are charged Rs.10 per day for food. In addition, they are charged for bed rent and



utilities (including medical consultation, nursing care and the services of ward persons and sweepers, electricity and water). The cost levied varies from Rs.40 per month (for a bed in the general ward) to Rs.200 per day (for a bed in the Intensive Respiratory Care Unit). In general, about 20% of all patients who approach the hospital's OPD are hospitalised (nearly 85% of whom are male). User charges paid by in-patients cover approximately 57% of the annual expenditure incurred by the institution.

- 1.4 The activities of M5 are handled by a staff of 87. Four of these are doctors (including one Chest Consultant-cum-Medical Superintendent (MS), one Lecturer and two house physicians) who receive a monthly honorarium. The management of the in-patient facility is effectively handed over to the nursing staff numbering 20. This includes the Nursing Superintendent, two wards-in-charge, two nurses-in-charge, seven staff nurses, three Auxiliary Nurse Midwives (ANMs) and five nursing aides and trainees.

M5 is lucky to have staff who put in many years of service : the average figure is 19 years. It is also not uncommon to find, from among the staff, two generations of the same family. Occasionally, M5 advances the careers of the children of its staff by recommending them for training programmes in fraternal institutions. In turn, these individuals are expected to work for the institution for a certain number of years during which they receive a small honorarium. At present, the X-Ray Department is run by one such individual.

- 1.5 M5 has the benefit of a number of committees whose members meet for specific purposes. These are the board of trustees (which meet once a year), the board of governors (which meets twice a year), the executive board meets whenever needed, the board of administrators which includes the Nursing Superintendent, Accountant, Administrative Assistant and the person-in-charge of the Rehabilitation Centre in addition to the MS meet once a week. The person who is a member of all these groups of policy and decision makers is the MS who retains almost complete control over the day-to-day functioning of the hospital.

## 2. Anti Tuberculosis Activities

- 2.1 APPROACH : M5 offers medical services for the diagnosis and treatment of tuberculosis patients. It deals with the problem of tuberculosis from a clinical perspective - social interventions are conspicuous by their absence. Therefore, while the institution is involved in anti-tuberculosis activities, these do not achieve the status of a Control Programme.
- 2.2 PROCESS : The hospital runs a daily OPD from 8.30 am to 1.00 pm and from 2.00 to 5.00 pm. Patients first register themselves with the OPD clerk. A fee of Rs.25 is paid and a case paper is prepared for them. All registered patients are put through a common set of radiological and



laboratory tests for which they are charged. These include X-Ray (Rs.100 for a full length exposure and Rs.25 for a miniature), blood tests (Rs. 50 for haemoglobin and Rs.100 for a Complete Blood Count), urine test (Rs.20 for the Purified Protein Derivative test and Rs.10 for urea test) and sputum examination (Rs.20). Results of tests are made available on the same day so that patients are saved the bother of having to return a second time. Once patients have all the test results in their possession, they are ushered into the doctor's room for a medical examination and diagnosis. This entire cycle runs smoothly, often at a gentle pace.

- 2.3 CASE FINDING : Case finding by the organisation is entirely passive. Patients with chest complaints approach the hospital either on their own or, most often with referral notes from private practitioners and other facilities from which they received their previous treatment. It is our impression that about half of the patients who approach the hospital have medical complaints other than tuberculosis. It is not possible for us to make an assessment of case finding efficiency since we do not have adequate secondary data.

Patients come most often from Sangli and Kolhapur and occasionally from Ratnagiri, Satara and Solapur. The hospital's OPD has a daily load of 30 to 40 patients. Between January and December 1992, 2992 patients utilised the OPD facility, of whom half were new patients.

The confirmation of tuberculosis is aided by diagnostic tests which are conducted by the organisation. While it is acknowledged that sputum examinations are necessary, in actual fact, these are not always done for out-patients because of practical difficulties with expectoration.

- 2.4 TREATMENT : Patients suffering from tuberculosis are identified by the doctor running the OPD. This assessment is based on the results of the blood test, the X-Ray picture and a physical examination. Wherever hospitalisation is clinically indicated, patients are advised to get admitted.

The hospital does not subscribe to a uniform regimen. The attending doctor (usually the MS), while taking cognisance of the principles of chemotherapy, prescribes regimens that are individually geared to suit patient's needs. As a general practice, patients are given antibiotics for a week followed by anti-tuberculosis drugs and vitamins. A second and a third line of treatment is also made available for resistant patients.

Out-patients are given prescriptions for drug purchases that they are expected to make elsewhere. Patients who are admitted are allowed to purchase drugs from the hospital's pharmacy at prevailing market rates. The quantum of drugs dispensed by the pharmacy is dependent on the money available with the relatives accompanying the patients.



Occasionally, patients are offered treatment facilities at subsidised rates (or free). However, this concession is subject to the recommendation of the MS.

The hospital makes its drug purchases from drug companies through their representatives. The sale of drugs in the pharmacy reduces the deficit incurred by the organisation by approximately one-fifth.

- 2.5 CASE HOLDING : While M5 subscribes to the notion of a follow up, this is clinical in nature. After their first visit to the OPD or after they have been discharged from the hospital, patients are advised to return, after two to three months, for another round of tests and clinical assessment. Informal conversations at the OPD have led us to believe that patients, who were previously admitted as in-patients, may be more likely to return for follow up visits once they are discharged than out-patients.

Apart from the advice that is given to patients, there are no formal mechanisms to ensure that patients continue with treatment for the required duration. Since M5 does not invest financially and ideologically in the creation of a Control Programme, the crucial role of case holding is perhaps not appreciated. There are problems at an operational level too. Firstly, since patients come from far flung locations, it is impossible to maintain contact with them. Postal reminders are possible. However, the manner in which records are maintained (the concept of treatment cards is absent), retrieval and identification of patients needing reminders is not just difficult but almost impossible. Thirdly, the hospital does not have the staff capacity for such an activity. Therefore, it is not possible for us to comment on the efficacy of M5 in ensuring treatment regularity.

- 2.6 RECORDS AND REPORTS : Data about the patients utilising M5 is contained in case papers and stored in the registration room. Information about patients is first recorded in a register. These includes details about the date of their visit, their names, sex, address and clinical history are entered. Every patient is given an identification number (which is usually the serial number in the register). This is also put down in the case paper.

Case papers are returned to the records room after patients are seen by the doctor and arranged in files in an ascending order. Files of out-patients are physically demarcated from those of in-patients. The case papers, being thin, tend to get worn out over time. They are clearly not intended for frequent handling.

Since the hospital does not receive grants from the government, they are not expected to submit reports. As a result, these are not collated or even stored in a manner that facilitates easy retrieval.



## ORGANISATION M6

Year of Establishment : 1970  
Year of Registration : 1975  
Location : Two western suburbs of Bombay

### 1. Introduction

1.1 M6, a voluntary organisation whose activities are located in a few western suburbs of Bombay, provides clinic-based medical services to what it broadly defines as poor and lower middle class groups. Its services include a Tuberculosis Control Programme, a Rural Health Programme (consisting of occasional medical camps in villages), two polyclinics, a Nutrition Programme (for tuberculosis patients and children attending balwadis) and Educational Programmes (with a library of toys and books). Included in its target group are senior citizens, deaf-mute and mentally retarded children and the organisation provides health care services to them. M6 also distributes uniforms to needy children and aims to organise annual seminars even as this exercise has been more occasional than regular in the recent past.

1.2 The organisation began with a group of doctors setting up a small dispensary in a slum in Bombay in 1970. This was converted to a polyclinic in 1992. In 1993, another general clinic was set up in a non-slum area. And, in 1994 the organisation inaugurated its second polyclinic with a pathology laboratory, radiological department and Tuberculosis Research and Control Centre on the same site.

The polyclinics are run by approximately 20 consultants from various specialty departments who are paid a honorarium every month. The organisation, however, does not employ more than a skeletal staff for its day-to-day running : at present, there are 11 members of the staff including one MO, two Administrative Officers, four Clerks, one Laboratory Technician, one Nurse-now-administrative-person and two Peons. Salaries are low; they, reportedly, account for only 10% of the total expenditure. On the other hand, funds that are generated through individual donations are utilised in building up and beautifying the organisation's infrastructure. The organisation's governing body is its managing committee which meets once a month or more often in case of exigencies.

### 2. Tuberculosis Control Programme

2.1 Although M6 started working in the area of tuberculosis (with the help of another NGO which provided them with the services of their doctor and drugs) in 1980, its programme was formalised only in 1982 when Koch's



centenary year was being celebrated.

- 2.2 APPROACH : M6's Tuberculosis Control Programme is focussed on treatment and the organisation offers medical consultation and drugs through treatment centres located in its two polyclinics, in the premises of 30 private practitioners and two temple trusts. Out of 30 GPs associated with the programme, 10 to 12 can be considered to be playing an active role in the programme. M6 has also enlisted the services of 50 specialists who offer medical consultation to patients referred to them by the primary treatment centres.

Besides offering their services in the area of tuberculosis, the GPs occasionally help the organisation in conducting seminars, rural camps and even getting donations. The involvement of GPs is advantageous from the organisation's point of view since it helps them to enhance the availability and accessibility of their health services without incurring too great an expenditure on it. The advantages of this arrangement are spelt out by the organisation : firstly, patients get medicines near their place of residence and are thus saved the bother of spending excessive time and money on conveyance and loss of wages; secondly, the organisation saves on establishment expenses; thirdly, the services of GPs and specialists are available free; lastly, since family doctors have better rapport with their patients, the task of case holding is easier.

The participation of GPs in M6's Programme is entirely voluntary. In fact, their involvement in the Programme is due largely to the persuasion of the President and Secretary of M6 who are doctors and also active members of the Medical Associations of the two suburbs in which M6 is located. There are no strict criteria for selection although a five year experience and an aptitude for *social service* are considered to be beneficial. On the whole, it is a sense of personal obligation on which this participation is founded. As a consequence, the office bearers of M6 do not feel that they have a right to monitor the treatment practices of GPs and rely on occasional verbal feedback from patients instead.

Interaction between participating GPs is limited if not altogether absent. Exchanges between GPs and M6 are limited to return forms which give details about drug stock, drugs dispensed, number of patients, the outcome of treatment and receipt books in which the money received from dispensed drugs are recorded. These are submitted to M6 every month.

Besides the GPs, the organisation also works with two temple trusts for the programme. These temple trusts give them space as well as half of drug costs and the organisation gives them a doctor and para-medical staff for tuberculosis programme.

- 2.3 PROCESS : Tuberculosis clinics are held thrice a week (for an hour each) in each of the polyclinics. These are run by four chest physicians.



Besides, two doctors practicing Homeopathy run a tri-weekly Homeopathic Clinic for certain tuberculosis patients.

There is no centralised registration counter : patients are free to register themselves either in these clinics or with the participating GPs. After getting investigated, patients return to the doctor for confirmation of diagnosis and treatment. A sum of Rs.10 gives patients access to medical consultation for a month. Patients are seen by (the same) doctors two to three times, on an average, during treatment. They consult doctors more often only in case of complications. Patients are given a booklet giving details of their history, dates on which drugs need to be collected, etc. They are expected to bring this along during every visit.

M6 handles a large patient load and this is amply illustrated by statistics. Between April 1992 and March 1993, it treated 2241 patients suffering from tuberculosis (including pulmonary tuberculosis - sputum positive and negative - and extra-pulmonary tuberculosis) and belonging to all ages (ie.adults and paediatric cases).

- 2.4 CASE FINDING : Case finding in M6 is entirely passive. Patients come directly or through referrals. Identification of suspected patients takes place in clinics and GPs' dispensaries. Some patients are referred to M6 by GPs or the Municipal Corporation after confirmation.

The diagnostic tests required for confirmation are X-Ray, blood test and sputum examination (of an overnight collection). Until the recent establishment of facilities for radiological and laboratory investigation, all patients were referred to centres run by specific privately or NGO-managed agencies where tests are conducted at discounted rates. Since the inauguration of M6's second polyclinic (and diagnostic centre), suspected patients are referred there where diagnostic tests are conducted at subsidised rates : X-Rays cost Rs.40, Sputum Exams cost Rs.10. Although the importance of the Sputum Examination is recognised, in practice, doctors in M6 rely more on the results of X-Rays for confirmation. Diagnostic tests (X-Ray) are routinely repeated only at the end of treatment (unless there are complications).

- 2.5 TREATMENT : Once patients are diagnosed, they are started on a regimen of 2SHRZ/6HE or 2SHRZ/4HR. Vitamins and Iron tablets are additionally given to patients. Sometimes, patients are given milk powder at the discretion of the persons handling drug distribution.

The drug regimen is advised but not monitored. As a result, participating doctors are given the liberty of making modifications if they so require. Regimens can also be altered at the behest of consultants in the case of individual patients. Resistant cases are given a second line of treatment with drugs like Kanamycin, Ethionamide, Cycloserine and Ciprofloxacin.



Till 1990, tuberculosis patients were given most drugs free. However, with increasing number of patients and rising costs of drugs, the organisation started charging patients for (allopathic) medicines. Some patients are given drugs at subsidised rates (usually in the range of 30 to 70% of the market rates) and a few patients are given drugs free. The decision about how much patient should be charged is taken by the treating doctor and they are given receipts for the money they give to the organisation.

Many of the tuberculosis drugs are bought by the organisation from drug companies at discounted rates (up to 50% in the case of some drugs). These are purchased as and when needed. M6 receives about 10% of its drug supply from the Municipal Corporation. These are given free to the patients.

Recently, on an experimental basis, the organisation set up a homeopathic clinic in its new polyclinic for treating resistant patients with homeopathic drugs. The attempt is to reduce the level of resistance and make patients responsive to the first line of treatment once again. At present about twenty five patients are put on homeopathic treatment in their pilot project. Since the results of this endeavour have not yet been analysed, it is not possible to opine on its effectiveness.

- 2.6 CASE HOLDING : M6 suffers from ineffectual case holding. This is amply demonstrated by the cohort analysis which shows that less than 20% of the patients complete the required duration of treatment.

There are two reasons for poor case holding. At an ideological level, the doctors associated with the programme (including the doctors at the helm of affairs) approach the question of follow up from a clinical perspective. This ideological position impinges upon the operational aspects of the programme. At present, the only mechanism that is used to bring patients into the mainstream of treatment is the postal reminder which is sent either directly by the organisation or by the organisation on behalf of the GP. Previously, when M6 had access to the services of student volunteers, it would use their services for case holding. This system does not exist at present.

Ideally, the organisation would like to send postcards to any patient who fails to show up for more than ten days. However, there are problems with the identification of such defaulters. Records of patients under treatment are maintained in registers and not treatment cards. Therefore, a defaulter can be identified only after the clerical staff plough through the contents of this register. While this is done to some extent at the main centres (TB Clinics) of the organisation, the diligence of the GPs in identifying defaulters can be seriously doubted.



2.7 RECORDS AND REPORTS : M6 does not maintain treatment cards for tuberculosis patients. Instead, a register is maintained with details about the patients' name, address, age, sex, date of commencing treatment, details about drug collection and outcomes if any. The results of radiological and laboratory tests are not recorded.

Separate registers are maintained for each of the visiting doctors and by participating GPs. A separate register is also maintained for patients receiving medicines free. The records are organized in a serial arrangement and not according to the date of the patients's next visit. As a result, defaulter retrieval is a cumbersome process.

Another characteristic feature of M6's record keeping is its use of terminology. For example, the term "cured" is loosely used for what might be more commonly referred to as 'C.O.P.T.', the term "Defaulter" is used to refer to a patient who does not take drugs for more than two months or a 'Lost' patient. The concept of a transfer does not always amount to a shift to another health facility. Instead, the numerous internal relocations from the care of one doctor to another (consequently, from one register to another) are also termed as transfers. This makes collation of data a tedious process.

This unsystematised approach to record keeping may be better appreciated by the fact that they are rarely consulted in the course of daily work. The leadership within the organisation admits that they do not have much use for records beyond presenting data to the Municipal Corporation and to existing and prospective donors. As a result, records yield little information.

### 3. Cohort Analysis

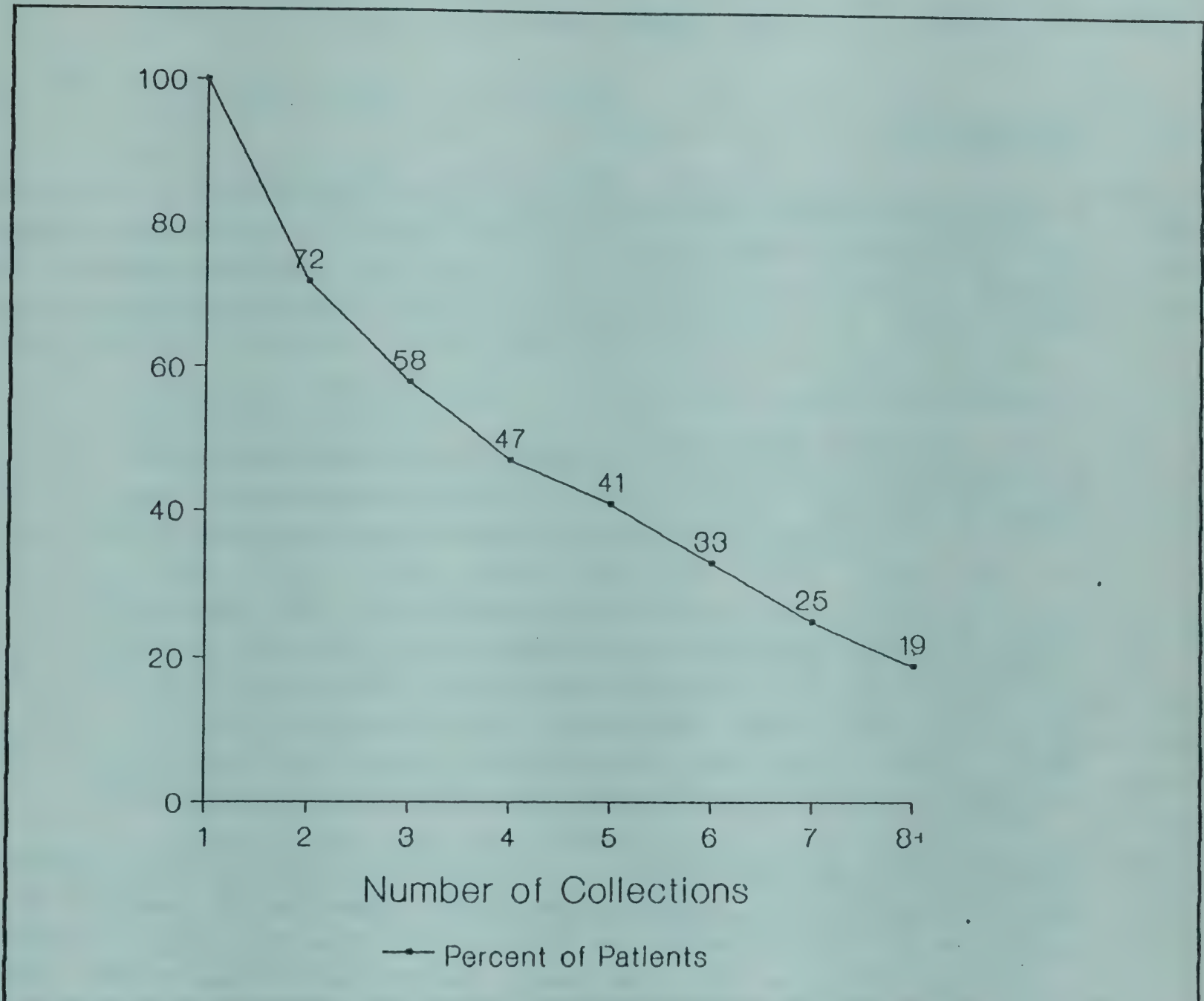
NOTE ON THE COHORT ANALYSIS : Out of 622 patient records in one of M6's clinics that we had access to (for the period January 1 to December 31, 1992), a cohort analysis could be performed for only 582 patient. Eight records were excluded due to inadequate information and 32 were pediatric cases. Due to the inadequately maintained records, very few cases were provided with information about their sputum status and X-Ray results. As a result, we were unable to perform separate analyses for sputum positive and sputum negative patients.

While some patients had made fortnightly or weekly drug collections, others had made monthly collections. In an attempt to induce some standardisation, weekly and fortnightly collections were converted into monthly collections. The results of the cohort analysis show that about 25% of the patients make 100% drug collections. As far as transferred cases are concerned, there are chances of double counting as there are many internal transfers.



3.1 DISTRIBUTION OF ALL TUBERCULOSIS PATIENTS ON SCC (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 622  
NUMBER OF ADULT PATIENTS : 590  
NUMBER OF PATIENTS INCLUDED : 582



	DURATION OF TREATMENT (IN MONTHS)							
	1	2	3	4	5	6	7	8+
NUMBER OF PATIENTS	166	81	59	38	48	47	35	108
CUMULATIVE FREQUENCY	582	416	335	276	238	190	143	108
% OF PATIENTS TAKING DRUGS	100	72	58	47	41	33	25	19

OUTCOMES :

TOTAL

-

582

C.O.P.T.

-

145 (24.9%)

TRANSFERRED

-

22

LOST

-

256

FAILURE

-

0

EXPIRED

-

0

NO RESPONSE

-

159

100% DRUG COLLECTION RATE

-

25%

80% DRUG COLLECTION RATE

-

33%



## Organisation M7

Year of Establishment : 1978  
Location : Northern Solapur, Maharashtra  
Population Served : Rural population of 35,580 in 14 villages

### 1. Introduction

- 1.1 M7, a mission-run rural community based health organisation, is located in the arid, drought prone region of northern Solapur. Its health programme includes curative, preventive and promotive services through the infrastructure of a base hospital and two SCs. In addition, M7 organises a range of economic activities like rope making, vegetable vending as well as adult education.

The organisation's initial involvement in the area goes as far back as 1948. At the time, its activities were focussed on medical care through a mobile health team constituted of medical and para-medical personnel from the city. This was concretised thirty years later when the organisation's registration was accompanied by the construction of a building that now houses the base hospital. And when the services of a MO was recruited in 1981, the organisation's health project could finally get off ground. The income generation activities were introduced only in 1988. Despite the time lag between these two inaugurations, the organisation views the two projects as being mutually supportive.

- 1.2 ORGANISATION OF HEALTH SERVICES : M7 provides curative care, maternal and child health care, family planning and immunisation services to a population of 35,580 through the organisation of a three-tier structure constituted of CHVs at the first level, Mobile Health Teams at the second and a base hospital at the third. Priority is awarded to the Maternal and Child Health and Family Planning Programmes.

- 1.2a First tier - CHVs : CHVs, who were inducted into the programme in 1986, are locally identified and trained women who are entrusted with the responsibility of providing curative care for minor illnesses, mobilising the community for immunisation camps, motivating eligible couples for family planning and conducting ante-natal and post-natal care. They are expected to function through house-to-house visits in assigned populations of not more than 1000 persons.

CHVs are equipped for the job that they do with a delivery and medicine kit as well as training. The training that orients them for health work in the villages lasts initially for 15 days, the content of which includes information about the six killer diseases, safe delivery, ante-natal and post-natal care - in short, education about basic curative, preventive and



promotive care. This is followed by retraining every month.

CHVs are recruited after an interview with representatives of the organisation. Once selected, they are paid a monthly sum of Rs.100. At present, the number of workers in this cadre is 32.

1.2b Second tier - Mobile Health Teams : The task of supervising CHVs through weekly visits is entrusted to mobile teams which is comprised of one or two nurses, a helper and a driver. Occasionally, the team is accompanied by a social worker who also oversees the economic programmes. The mobile team conducts clinics in the SC villages, immunisation camps, family planning motivation, ante-natal and post-natal care. It covers an average of two villages are covered each day.

1.2c Third tier - Base Hospital : The base hospital has 22 beds which are distributed between the general and maternity wards (10 in the former and 12 in the latter). Besides, the hospital is provided with a delivery room, an operation theatre, a radiological unit and a laboratory (for bacteriological and haematological investigations).

A general OPD is run every day for two to three hours in the morning and evening to which people come directly or with referral notes. This is managed by the MO. In addition, the hospital runs a number of specialist OPDs on pre-determined days of the week. These are managed by consultants who visit the organisation like a gynaecologist (who come in twice a week), an ophthalmologist and a surgeon (who visit once a week). Patients are charged for the specialised OPDs. The sum thus received is distributed equally between the consultant and the organisation. The annual patient load at the OPD in the base hospital and SCs is, on an average, 13,000.

1.3 **STAFF** : M7 has a staff strength of 18 including one doctor, a field supervisor (nurse by training), four ANMs, one laboratory technician, one (part time) social worker, one clerk, two drivers, five helpers, one sweeper and one watchman. Worker motivation was not at its peak when we visited the organisation as there was a feeling among some of the staff members of being overburdened but inadequately compensated for their efforts.

## 2. Tuberculosis Control Programme

2.1 M7 conducts a well rounded programme integrated with general health care. All adult patients suffering from tuberculosis are considered eligible for inclusion regardless of their sputum results. Until 1992, M7 served as a referral and follow up centre. This has changed and now the organisation handles case finding, treatment as well as case holding. However, this expanded role has not been accompanied by a redistribution of emphasis



from maternal and child health to tuberculosis control. As a result, the programme is modest in its scope and functioning. The total load of tuberculosis patients in a year does not exceed 60.

- 2.2 CASE FINDING : Case finding is both active and passive. Active case finding is routed through CHVs who identify suspected patients in the village and refer them to the mobile team or accompany them to the base hospital. Passive case finding takes place via self reporting.

The diagnostic tests for confirmation are sputum examination and X-Ray. M7 has been offering these since 1993. Subsidies are given to some patients.

- 2.3 TREATMENT : Confirmed patients are started on treatment by M7 which follows standardised regimens. Thus, sputum positive patients are put on a regimen of 2SHER/6HE while sputum negatives are assigned to a regimen of 6HERZ/12HE. The organisation gives the second group of patients drugs for the first six months and refers them to the District Tuberculosis Centre (DTC) for the latter half.

M7 receives its supply of anti-TB drugs from the DTC. These are normally disbursed to all patients at the hospital given at no cost. Patients are expected to purchase only those drugs that might be unavailable or recommended in addition to the basic minimum.

- 2.4 CASE HOLDING : Case holding is routed through CHVs who educate patients and maintain regular contact with them through home visits. The organisation has recently started maintaining treatment cards and, therefore, the task of identifying defaulters should theoretically be an easy one. This activity is assigned to a part time social worker who is swamped with a host of responsibilities which are deemed to be more important from the organisation's point of view. As a result, the process of identification (let alone defaulter retrieval) itself gets sidelined.

The effectiveness of a case holding strategy can be best appreciated through a cohort analysis. However, it was not possible for us to undertake this exercise since the organisation served as nothing more than a referral centre in 1992.

- 2.5 RECORDS AND REPORTS : Information about tuberculosis patients are recorded in a register fairly similar to the BTC and in treatment cards. The latter is supplied to M7 by the DTC. This system was introduced during 1993 when M7 turned into a diagnostic and treatment centre. The task of record keeping is managed by an office clerk. However, since the information generated by these records is not routinely tapped (let alone fed back into the programme), record keeping becomes - quite needlessly - an extraneous activity. Since M7 receives drugs from the state, they are expected to submit periodic records to the DTC in a pre-designed format.



## ORGANISATION - G1

Year of Registration	:	1975
Year of Commencement	:	1980
Location	:	District Kheda in south-central Gujarat
Population Served	:	15,07,178 in 558 villages in all 10 talukas

### 1. Introduction

- 1.1 G1, a rural organisation, uses the infrastructure of dairy cooperatives under the umbrella of the Kheda District Cooperative Milk Producers Union Ltd. to create a community-based health care system for mothers and children from marginal populations. The demonstrable capacity of the cooperative movement to provide medical care for cattle led to the demand for an equivalent service for people. G1 is the product of this demand.

A gift Rs. 6,50,000 to the chairman of the cooperative federation by 900 cooperatives on the occasion of his retirement was earmarked as seed money for this nascent organisation. Subsequently, a blueprint developed by a team of experts between 1975 and 1980 and the inflow of grants from a foreign funding agency paved the way for an experiment in cooperative health insurance.

Here, basic pre-paid health services are made available by village Dairy Cooperative Societies. These services can be utilised by all residents regardless of their membership status. G1 also engages in a host of non-health initiatives like rural energy and environmental sanitation (biogas, soakpits, low cost latrines, smokeless chullahs) and income generating programmes (like patchwork). Access to these programmes as well as third party reimbursements to a tertiary hospital (which serves as a referral facility for G1) are generally reserved for members. The membership fee is a nominal sum of Rs.10 per family and is paid by milk producers as well as others.

In order to participate in the insurance scheme, village Dairy Cooperative Societies are expected to (1) pay an annual sum of Rs.1000 to G1 from its profits, (2) finance at least half the honorarium of the health worker, (3) provide a space from which the health worker can run a daily clinic and (4) form a health care sub-committee in the village. The federated structure also supports upto one third of G1's annual expenditure through grants routed via the National Fund for Rural Development. Thus, G1 draws its rationale and strength from dairy cooperatives at all levels and in more ways than one. In turn, the organisation is closely monitored by the cooperative structure through its representatives in the managing committee and via general body meetings at the village level.



1.2 ORGANISATION OF HEALTH SERVICES : G1 provides services like Maternal and Child Health Care (including pre-natal care, ante-natal care, delivery, intensive immunisation in 210 villages, family planning), curative care, tuberculosis control, supplementary feeding (through a Nutritional Rehabilitation Centre) and infant day-care through a two-tier structure with graded spheres of competence. The first tier is comprised of VHWS and the second of dispensaries. The chasm between these two levels is bridged by an effective system of professional support and referrals. The benefit of health care services is extended to residents of more than 60% of the villages in Kheda District.

1.2. First tier - VHWS : The first tier is constituted of the most important of G1's health functionaries - VHWS who are locally identified and trained women. VHWS are provide basic health care services in the village. Their specific tasks include primary curative services, health education, family planning motivation, weight taking (as a part of supervised ante-natal care), identification of patients requiring referrals to the tertiary hospital and facilitation of house-to-house immunisation for a visiting team from the headquarters and overseeing of patchwork activities. They are equipped with a medical-cum-first aid kit with 28 items of medicines and materials.

VHW are assigned, one to a village, regardless of its population. There are, however, wide variations in the population size : the range extends from 242 to 17,967. Therefore, in villages with large populations, they are asked to concentrate on the poorer sections.

VHWS are recruited through advertisements placed outside the Dairy Cooperative Society office. The organisation does not have many pre-determined eligibility criteria save the one of age (they should preferably be young). Prospective candidates are judged through an interview conducted by representatives of G1.

Once selected, they are oriented to their job requirements through training. This is conducted by the Senior Executive (a doctor in charge of the health programme) and the coordinator of the Tuberculosis Control Programme according to a pre-designed syllabus. Initial training lasts for 15 days and is followed up by monthly retraining programmes in any of the 18 training centres set up for the purpose. VHWS are paid a travelling allowance for the duration of their training. They are paid an honorarium of at least Rs.100 or more. Rs.50 is G1's contribution which may be matched or exceeded by the contribution of the village Dairy Cooperative Society. The amount is dependent on the paying capacity of the Cooperative as well as their satisfaction with the worker's performance. Dissatisfaction with a VHW's work could lead to her dismissal at the insistence of the Dairy Cooperative Society.



VHWs are supported in their work by a team of supervisors comprising Field Supervisors, Group Leaders, ANMs, nurses and Doctors. Field Supervisors, who are matriculates or graduates with on-the-job training for 15 to 17 days, are each assigned to seven or eight VHWs. They are expected to visit VHWs at least once a fortnight, review their activities, make home visits with them and jointly tackle field problems whenever they erupt. Groups of seven to eight Field Supervisors are, in turn, accountable to a Group Leader, who as an experienced Field Supervisor, provides the next level of expertise in the matter of field work. A meeting of Supervisors and their Group Leader takes place once a week where a further process of review and discussion takes place. In addition, VHWs are provided with immunisation support and record maintenance by a mobile team of ANMs. Thus, a graded system of supervision with regular interaction provides professional support to VHWs and collectivises the process of problem solving.

- 1.2a Second tier - Dispensaries : The second level of expertise is offered to patients at dispensaries located at the organisation's headquarter as well as four SCs in four geographical zones of the District. OPDs are run in each of these centres on a daily basis. These are each managed by an MO with the possible assistance of a nurse. The headquarter houses an OPD, but also a nutritional rehabilitation centre, an information centre, a training centre, family planning welfare centre (where tubectomies and vasectomies are performed) and a Balwadi (or infant day care centre). The OPD at the headquarter does not, however, serve as a referral facility for patients from villages under the jurisdiction of the SCs.

Illness beyond the professional competence of the dispensaries are referred to a trust-run tertiary hospital, not far from the headquarter. The choice of referral facility is more a matter of convenience than geographical centrality. As a result, it is not accessible to all persons in the project area.

- 1.3 **STAFF** : G1 has a staff strength of 170 employees and at least 560 volunteers (VHWs). The professionally qualified staff for health work include five doctors. The other workers have been oriented through training by the organisation. Many of the staff members have worked in two or three departments at various points in the career and are conversant with the requirements of not only their jobs but those of their colleagues too.

- 1.4 As a rural development organisation with an extensive presence in the district, G1 eschews embroilment in land-based politics and avoids confrontation with local power structures. Instead, it is built on the ideal of 'professionalism' in administrative and financial management. This is an intentional achievement. The consultant team which provided G1 with its early operational design had recommended that the programme be handled by professional managers in much the same fashion as the dairy



cooperatives. As a result, G1 is focussed on instituting measures to optimise its functioning and efficiency. A well ordered division of labour at all levels, the allocation of responsibilities to specially constituted sub-committees and the use of Management Information Systems for internal monitoring are some of the mechanisms that are brought into the process.

## 2. Tuberculosis Control Programme

- 2.1 G1's Tuberculosis Control Programme is focussed primarily on facilitating the treatment of tuberculosis patients and only peripherally on tackling the social aspects of the disease and disadvantages that may be created or aggravated by its presence. Tuberculosis patients are accepted into the programme as long as they belong to the villages under the project and approach the programme through its VHWs. Considerations about age and the nature of affliction (pulmonary or extrapulmonary, sputum positive or negative) do not preclude accesses.

The Tuberculosis Control Programme functions as a programme integrated with general health services. Therefore, the staff on the programme, the Medical and the field staff ( 560 VHVs) spend only part of their time being involved in various ways in case finding, treatment and case holding.

- 2.2 CASE FINDING : Case finding activities are routed through VHVs who are trained to detect symptoms of tuberculosis. This preliminary detection is done during home visits or during the one hour that they dispense medicines at the village cooperative office. About 90% of the case finding is handled by VHVs. The remaining 10% approach G1's workers with referral slips.

Although the organisation has a laboratory, all patients suspected of suffering from pulmonary tuberculosis are accompanied by VHVs to either of two DTCs in the District for an X-Ray and Sputum Examination. G1 has its staff posted at both DTCs to coordinate and expedite the rounds that are expected to be made during these diagnostic camps. Patients are expected to bear the cost of travel to the DTC. However, very poor patients are reimbursed by the organisation. Patients suspected of suffering from extrapulmonary tuberculosis are referred to a trust-run hospital for diagnostic tests and treatment.

Between January and December 1992, 1537 patients were identified as potential tuberculosis patients. Out of these, 1041 (ie.66%) were confirmed as having tuberculosis. Less than 20% were sputum positive. Sputum positive patients are expected to return to the DTC every fortnight for repeated sputum examinations for the first two months.



2.3 TREATMENT : Once patients are diagnosed as suffering from tuberculosis, they are given medicines by G1. Since the patients' treatment is put under the overall supervision of the DTC, the organisation takes care to comply with regimens that may be recommended or accepted by the DTO. At present, G1 subscribes to two regimens. Sputum positive patients are started on a regimen of 2HERZ/4-6HE while others are put on 3HER/6-9HE. The introduction of Pyrazinamide into the regimen is a recent phenomenon. Treatment may be extended by three to six months if clinically indicated. Patients who experience side effects are asked to come with their medicines to any of the OPDs run by G1.

The organisation is aware about the need for rational and uniform regimens between referring and referral institutions. It is for this reason that there is an attempt being made to get the trust-run tertiary hospital (which serves as G1's referral facility) to subscribe to the same regimens.

G1 does not receive drugs from the state government. It purchases its stock from pharmaceutical companies through the process of examining tenders. Medicines are generally held in reserve for those patients identified by VHWs. Sometimes, however, the organisation also accommodates patients who approach the organisation with referral slips despite a diagnostic confirmation elsewhere. In order to minimise the number of visits that a patient needs to make to the dispensary during the course of his/her treatment, G1 delivers monthly drug packets to them at their doorstep through VHWs. These packets are prepared and sealed at the headquarter and SCs in advance. They are sent to the village through the network of Field Supervisors.

2.4 CASE HOLDING : G1 does not place too great an emphasis on clinic-based follow up. This is limited to the beginning of treatment, to the end of the intensive phase and to the end of six months. Instead, the organisation entrusts this responsibility to VHWs who are expected to educate patients and their families during home visits and keep track of the treatment requirements of individual patients.

Education and health advice to the family begins with the first visit that the VHWs make. For this they are accompanied by their Field Supervisors. VHWs make subsequent visits on their own. Since they are not burdened with too many patients, VHWs are in a position to visit patients at least once a month (during their drug distribution). During these visits, if it is noticed that patients have not been taking medicines, VHWs take the remaining quantum of drugs from them and return it to the centre. Similarly patients who wish to rejoin the programme after a gap of time, are not refused treatment but are told in no uncertain terms that their delinquent behaviour is costing the organisation money.



G1's strength lies in its ability to hold on to patients for the duration of their treatment and this is more than amply demonstrated by the cohort analysis (in Section 3). With 100% drug collections exceeding 75% this conclusion is obvious. The criticism that could be made, however, is the one of excessive case holding since nearly 80% of those completing treatment and 90% of those reportedly still on treatment have taken drugs for more than the required duration of 12 months.

- 2.5 RECORDS AND REPORTS : VHWS maintain information about the names and ages of patients under treatment in their villages as well as the date on which they were given drugs and outcomes (if any). This information is compiled and fed every month into a register maintained at the headquarter. This register is in no way similar to the BTC. Here details about the patient, his/her name, age, sputum status, village, date of starting treatment are recorded only once and not carried over to the proceeding year. Details about every drug delivery and treatment outcome (if available) is recorded alongside and this is updated with every report submitted by the VHWS. However, the system of recording the number of disbursed drug packets against each patient was stopped after October 1992.

Since the organisation does not receive state support, they are not expected to submit periodic reports. Nonetheless, records are maintained meticulously, if unconventionally.

### 3. Cohort Analysis

NOTE ON COHORT ANALYSIS : Out of 1041 TB patients identified between January 1 and December 31, 1992, 953 were put on treatment; 44 patients had dropped out and 44 had expired even before they were started on treatment. Out of these, only 818 patients could be considered for the cohort analysis due to 10 being paediatric and extrapulmonary patients and the rest yielding insufficient information. The analysis was thus performed on 188 sputum positive patients and 620 sputum negative patients.

The health workers, in their records, kept information on collection and outcome of those patients who were irregular. Hence several of the records had no outcome or collections mentioned against them. According to the workers, these patients were assumed to have made 12 collections. The cohort analysis has hence been separately done - (1) including only those for whom collections and outcome were available (see 3.1 and 3.2), (2) including all patients after making the assumption that those not having any collection/outcome mentioned had made 12 collections (see 3.3 and 3.4). Patients reported to be on treatment were included into the cohort due to considerably longer duration for which patients continue to take treatment.

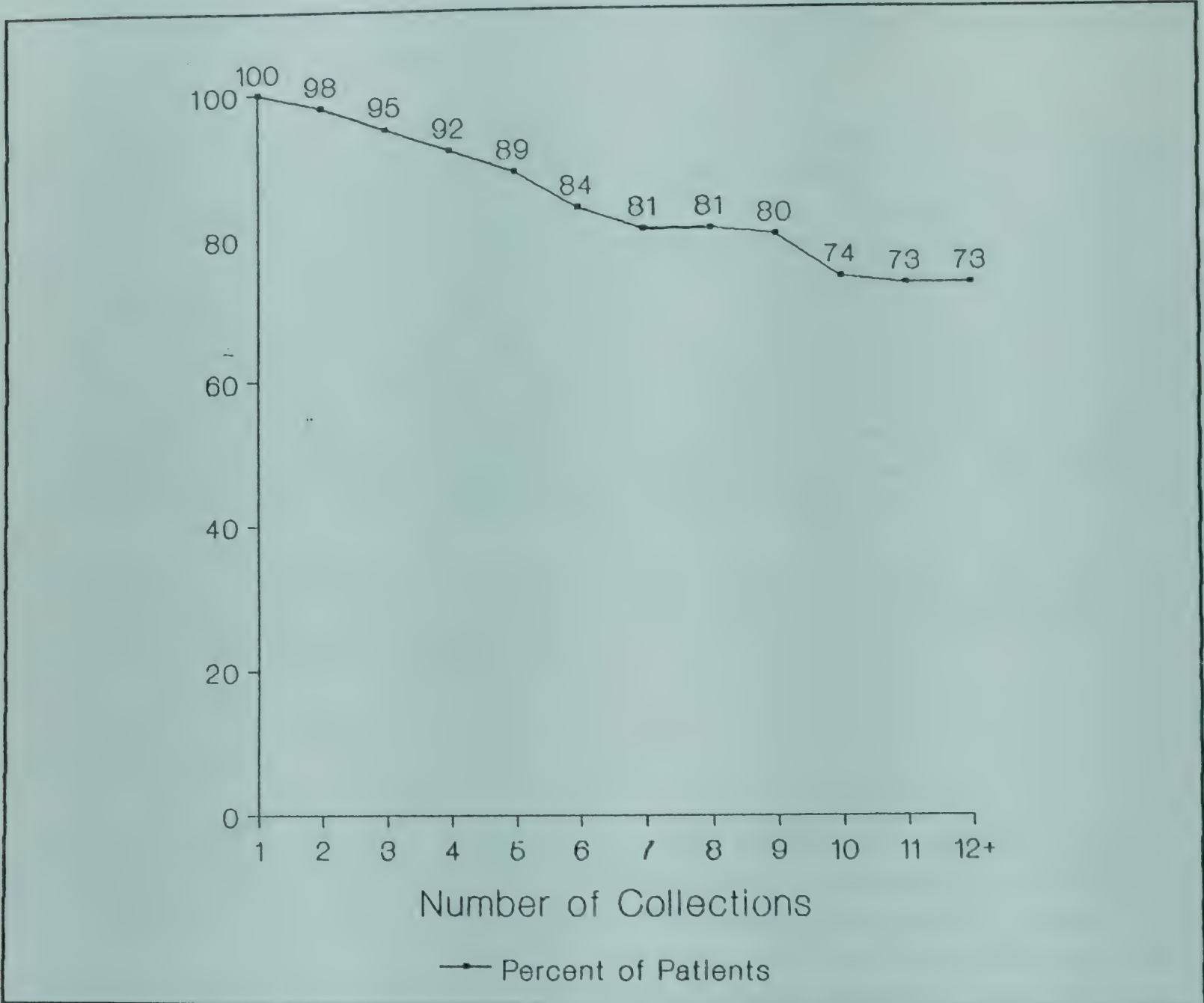


The 100% drug collection rate when the assumption was made, is 87% for 188 sputum positive patients and 89% for 620 sputum negative patients. Restricting the analysis to those with complete records reduced the 100% collection rate to 75% for 83 sputum positives and 75% for 270 sputum negatives.



3.1 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON SCC (1.1.92 to 31.12.92)  
(Inclusion of patients about whom information about collections and outcomes are available)

NUMBER OF PATIENTS TREATED : 83  
NUMBER OF ADULT PATIENTS : 83  
NUMBER OF PATIENTS INCLUDED : 83



	DURATION OF TREATMENT (IN MONTHS)											
	1	2	3	4	5	6	7	8	9	10	11	12+
NUMBER OF PATIENTS	2	2	3	2	4	3	0	1	5	1	0	60
CUMULATIVE FREQUENCY	83	81	79	76	74	70	67	67	66	61	60	60
% PATIENTS TAKING DRUGS	100	98	95	92	89	84	81	81	80	74	73	73

OUTCOMES : TOTAL - 83

C.O.P.T. - 27 (32%)

ON TREATMENT - 29

TRANSFERRED - 0

LOST - 7

FAILURE - 0

EXPIRED - 14

NO RESPONSE - 6

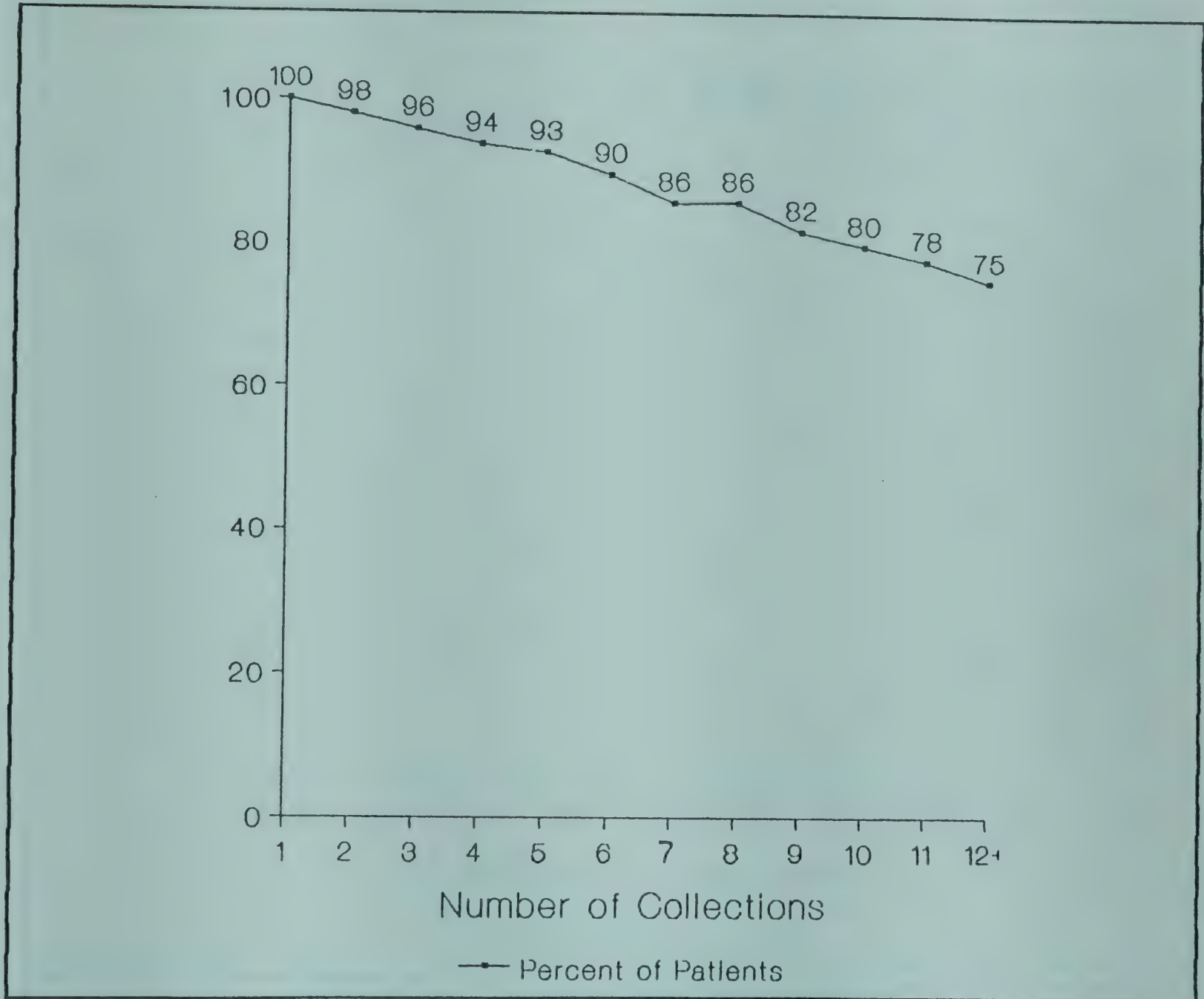
100% DRUG COLLECTION RATE - 73%

80% DRUG COLLECTION RATE - 74%



3.2 DISTRIBUTION OF SPUTUM NEGATIVE PATIENTS ON SCC (1.1.92 to 31.12.92)  
(Inclusion of patients about whom information about collections and outcomes are available)

NUMBER OF PATIENTS TREATED : 272  
NUMBER OF ADULT PATIENTS : 270  
NUMBER OF PATIENTS INCLUDED : 270



	DURATION OF TREATMENT (IN MONTHS)											
	1	2	3	4	5	6	7	8	9	10	11	12+
NUMBER OF PATIENTS	6	5	6	3	6	11	2	10	6	5	7	203
CUMULATIVE FREQUENCY	270	264	259	253	250	244	233	231	221	215	210	203
% PATIENTS TAKING DRUGS	100	98	96	94	93	90	86	86	82	80	78	75

OUTCOMES : TOTAL - 270

C.O.P.T. - 79 (29%)

ON TREATMENT - 122

TRANSFERRED - 2

LOST - 22

FAILURE - 0

EXPIRED - 30

NO RESPONSE - 15

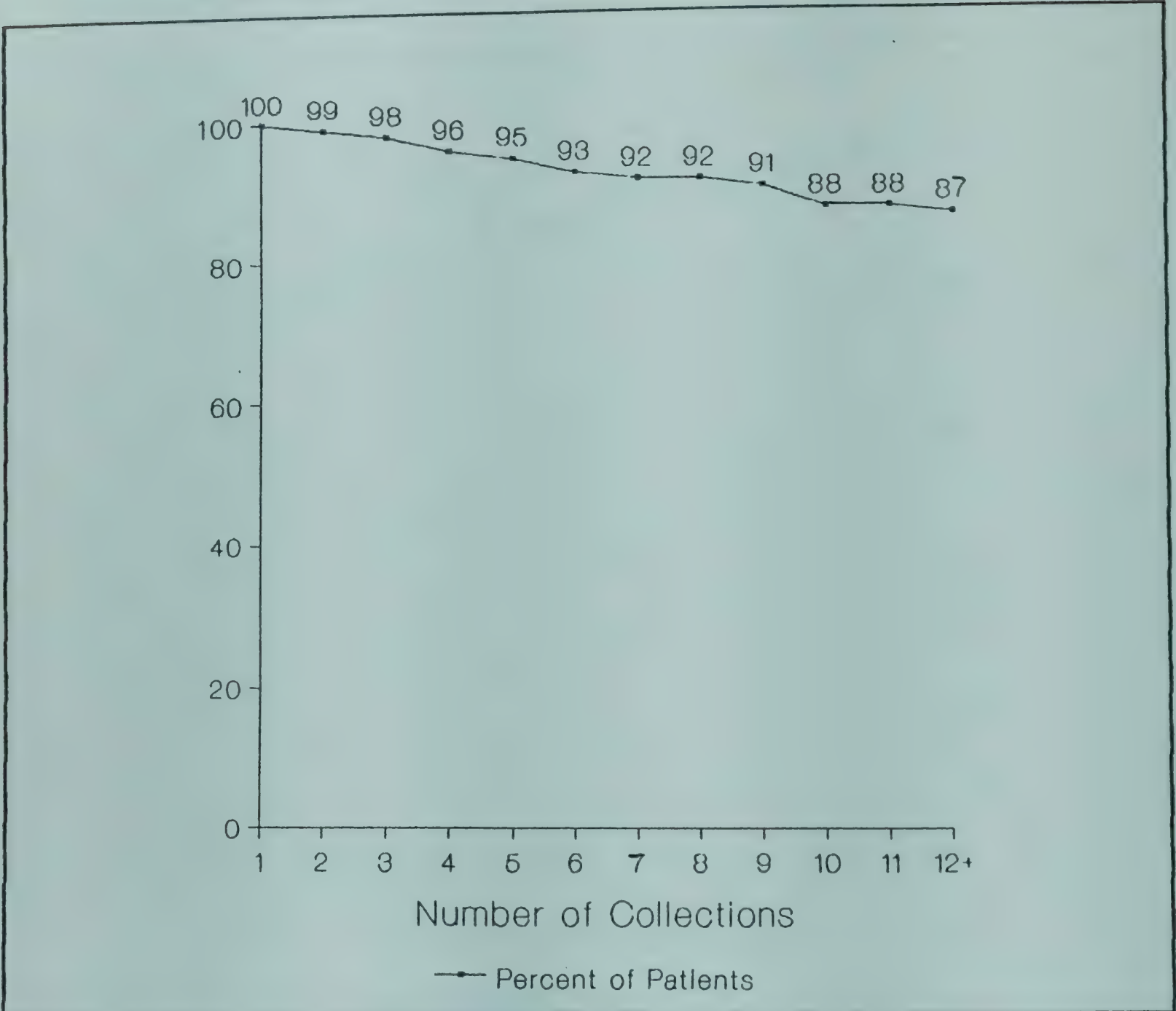
100% DRUG COLLECTION RATE - 75%

80% DRUG COLLECTION RATE - 80%



3.3 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON SCC (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 194  
NUMBER OF ADULT PATIENTS : 194  
NUMBER OF PATIENTS INCLUDED : 188



	DURATION OF TREATMENT (BREAKUP IN MONTHS)											
	1	2	3	4	5	6	7	8	9	10	11	12+
NUMBER OF PATIENTS	2	2	3	2	4	3	0	1	5	1	1	164
CUMULATIVE FREQUENCY	188	186	184	181	179	175	172	172	171	166	165	164
% PATIENTS TAKING DRUGS	100	99	98	96	95	93	92	92	91	88	88	87

OUTCOMES : TOTAL - 188

C.O.P.T. - 27 (14%)

ON TREATMENT - 29

TRANSFERRED - 0

LOST - 7

FAILURE - 0

EXPIRED - 14

NO RESPONSE - 111

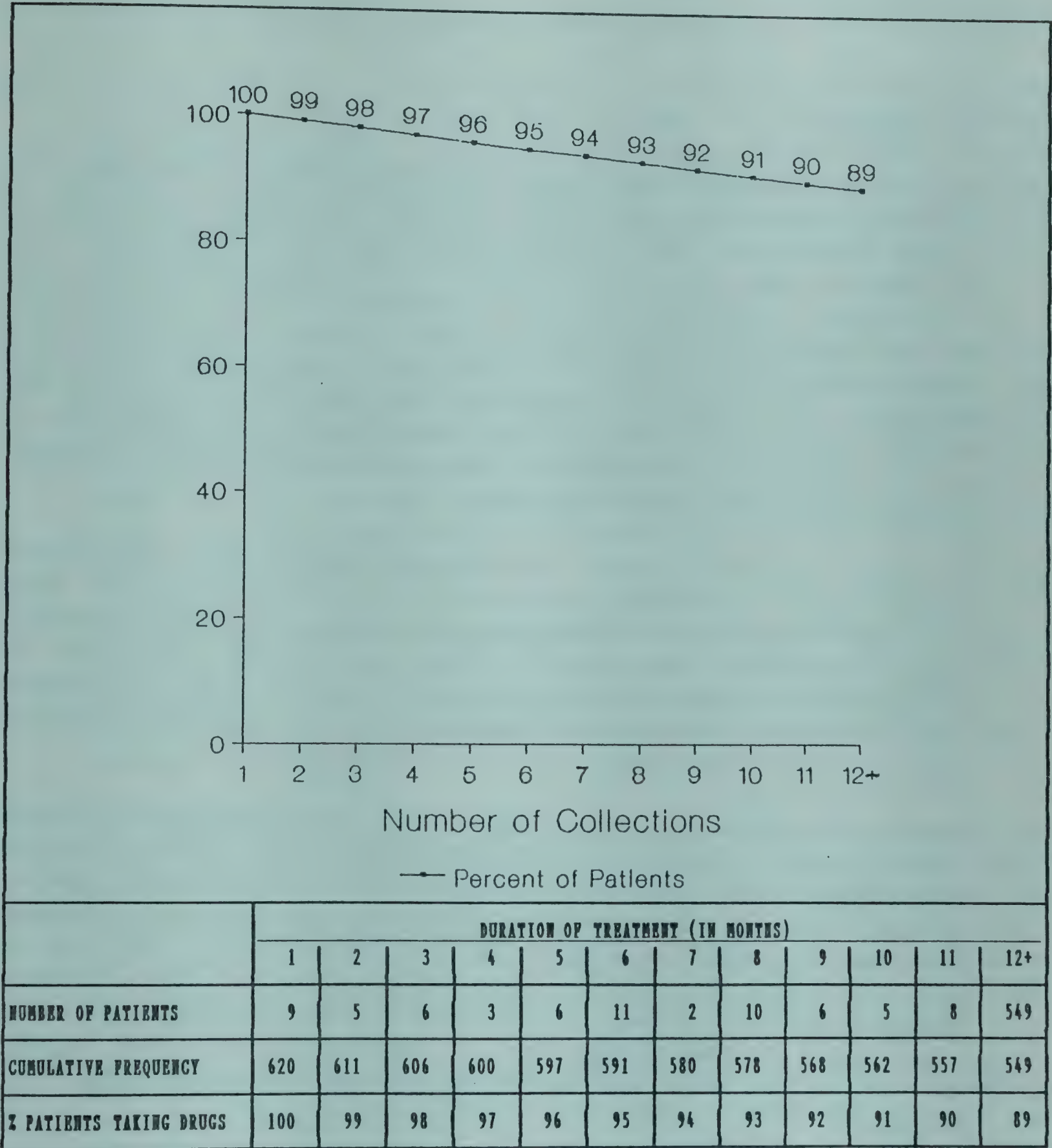
100% DRUG COLLECTION RATE - 87%

80% DRUG COLLECTION RATE - 88%



3.4 DISTRIBUTION OF SPUTUM NEGATIVE PATIENTS ON SCC (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 650  
NUMBER OF ADULT PATIENTS : 642  
NUMBER OF PATIENTS INCLUDED : 620



OUTCOMES :	TOTAL	-	620	100% DRUG COLLECTION RATE	-	89%
	C.O.P.T.	-	79 (13%)	80% DRUG COLLECTION RATE	-	91%
	ON TREATMENT	-	121			
	TRANSFERRED	-	2			
	LOST	-	22			
	FAILURE	-	0			
	EXPIRED	-	30			
	NO RESPONSE	-	365			



## ORGANISATION - G2

Year of Establishment : 1969  
Location : Three talukas in Banaskantha District, North Gujarat

### 1. Introduction

1.1 G2, a community-based organisation, was created and is maintained as a gesture of philanthropy by members of a business family. The NGO is located in and around the family's native town in one of the most backward and drought-ridden districts of Gujarat. G2's initial involvement was with drought relief work. This was progressively widened over the years and the organisation, at present, engages in health, social welfare and rural development programmes. Apart from these, the organisation has also been given the charge of implementing the ICDS Scheme in nearly 550 villages in six blocks of the district covering an estimated population of 600,000. G2 also runs a school for training their ICDS workers (Anganwadi workers (AWW)) and bare-foot doctors.

1.2 The health programme includes maternal and child health, tuberculosis control, opium de-addiction and twice yearly cataract surgery camps. These are routed through a 150-bedded general hospital, a 30-bedded maternity home and dispensary and a team of village level health workers for the project area. The focus from which activities emanate is not the hospital but the community; the hospital functions merely as a secondary referral centre for the project area.

1.3 These health and non-health programmes, which were introduced at different points in time in response to perceived needs of the community, function in a seemingly vertical fashion with programme managers (who are expected to report directly to the Director) deployed to head one or two programmes. However, these are integrated at the village level. Thus, the AWW not only looks after regular defined MCH work, but also undertakes identification and follow-up of tuberculosis patients and opium addicts in her village; in some villages she is also trained to deliver curative care. The supervisors and trainers are also fully conversant with all the activities of G2.

G2 has developed and sustained locally available expertise to handle the various programmes. Though programme managers lack any formal management training, they seem to run the programmes under their charge with the ease of the professional.

1.4 The trustees take a personal interest in the management of the organisation. The director is a member of the family. A team consisting of the Director, his brother and a Director of Medical Services (a retired



medical teacher) is responsible for taking decisions on the running of various programmes. For individual programmes, experts in the field are invited to be consultants.

## 2. Tuberculosis Control Programme

2.1 The initial impetus to start a Tuberculosis Control Programme was provided by one of G2's welfare schemes which bestowed destitute women and widows with financial support. Feedback from recipients of this scheme revealed that the major problem causing mortality and morbidity was tuberculosis. The leadership within G2 then took cognisance of this fact and invested their energy in creating a programme with the combined expertise of national experts.

2.2 As a result, G2 has a well defined Control Programme which is operated from three clinics. One of these is located in the hospital while two operate in the community. Although the hospital is placed at the apex of this structure, its role is limited to providing medical and technical expertise to the two centres. Consequently, the laboratory and X-Ray technician and the doctors managing the daily TB OPD in the hospital are vested with the responsibility of running TB clinics at the other two centres once or twice a week.

The programme accepts all patients into its sphere of beneficence regardless of their age, nature of affliction and sputum status. Out of 4116 patients identified in 1993-94, 16% were sputum positive, 83% were X-Ray positive and the remaining were patients suffering from extra-pulmonary tuberculosis.

2.3 The personnel involved in the programme include two doctors, two laboratory technicians, two laboratory assistants, one radiologist (common for the hospital), two X-Ray technicians, 13 full-time TB workers and three TB supervisors. The organisation has suffered due to frequent turnover of doctors at the hospital and this instability has impinged on diagnostic and treatment practices in the programme (as we shall subsequently see).

Members of the staff (especially village level staff) are oriented to their jobs through the process of training. As a result, with the exception of the doctors and one of the laboratory technicians, all the staff involved in the Tuberculosis Control Programme have received on-the-job training.

2.4 **PROCESS :** The hospital runs a daily OPD while the two centres hold TB clinics once or twice a week. Patients report early in the morning and proceed for their investigations. There is a long waiting period before the results are provided. During such intervals, patients are assembled



and given health education talks by TB workers or supervisors. A vocal patient is selected during such sessions and asked to narrate his/her story. This is followed by a discussion. All patients are offered lunch by G2, after which they collect the results of their tests, meet the doctor and are started on treatment if found to be positive either by X-Ray or sputum examination.

- 2.5 CASE FINDING : Case finding by G2 is both active and passive. Active case finding is carried out by TB workers and AWWs who refer chest symptomatics from their village to the nearest TB clinic and receive Rs.15 (per confirmed patient) as an incentive. Passive case finding takes the form of self reporting and referrals by patients previously treated by the organisation. The latter is predominant with self reporting (42%) forming the bulk in all the clinics while referrals (21%) accounting for a significant proportion.

G2 has the capacity to attract patients. While the hospital gets patients from several parts of the district, one of the clinics situated on the border between Gujarat-Rajasthan gets patients from across the border. Not unexpectedly, G2 handles a large patient load. Between January and December 1993, 4152 patients were diagnosed as tuberculosis patients.

The diagnostic tests for confirmation are X-Ray and sputum examination and these are conducted by G2. All new patients are given a disposable sputum cup and instructed to collect their sputum and also get themselves x-rayed. For patients whose sputum indicates positivity, exams are repeated at subsequent (drug collection) visits till such time that the report is negative. In case of sputum negatives, only one sputum specimen is examined. In a small number of cases (15% in 1992), the sputum examination is not done. The positive slides from the two TB clinics are sent to the laboratory at the hospital. Occasionally, the District Tuberculosis Officer (DTO) or the laboratory technician from the DTC visit the laboratory and re-check the slides.

- 2.6 TREATMENT : The confirmation of tuberculosis comes from the doctors running the TB clinic. They read the x-rays and the stress is on x-ray diagnosis. It was observed that diagnostic and treatment practices were inconsistent. This was the result of the turnover of doctors. In an attempt to attain a level of uniformity, a couple of experts were invited to lay down a standard guidelines for TB management. However, these are not strictly adhered to because of the tendency of doctors to judge individual cases clinically.

All patients irrespective of their sputum receive the same treatment regimen - an unsupervised, fully intermittent (thrice weekly) short course regimen of 2(EHRZ)<sub>3</sub>/4(HR)<sub>3</sub>. However, deviations from the regimen by way of not using pyrazinamide or using ethambutol in the continuation phase, are common. There are no alternate regimens for failure cases.



Drugs are supplied by G2 and patients are charged variably according to their ability to pay. As a general norm though patients are not charged more than Rs.50 for one month's drug supply. Patients are first given a week's supply of drugs. This quantum is gradually increased to a fortnight and ultimately to a month. G2 does not suffer from drug shortages. It purchases all its drugs from the open market and does not receive any supply from the DTC.

- 2.7 CASE HOLDING : As soon as patients are started on treatment, a postcard is sent to the AWW in her village informing her about the patient. She then includes the patient's name in her village TB register and visits the patient periodically to check on regularity. In the event of a patient not reporting at the TB clinic for drug collections, a postcard is again sent to the AWW instructing her to take remedial action. An incentive of Rs.30 is offered to the worker for successful treatment completion by the patient in her village. In the case of villages not covered by the ICDS programme, the TB worker undertakes case holding activities. Since there is no priority given to sputum positive patients in the programme, all patients receive equal priority for case holding, as well.

The cohort analysis is the best method by which the case holding efficiency of an organisation can be ascertained. A quick perusal of the cohorts presented in the next section indicates that G2 has been highly successful in ensuring treatment adherence. For the period January to December 1993, as many as 80% of all patients were recorded as COPT.

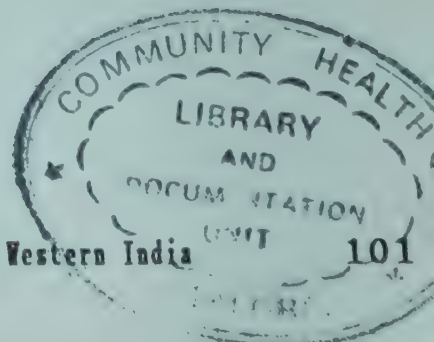
According to G2, regular patient meetings and discussions held while patients are awaiting their reports are responsible for treatment adherence by patients.

- 2.8 RECORDS AND REPORTS : Treatment cards (which do not conform to the ones suggested by NTP) are maintained separately at the three centres. There is also no concept of a treatment box as recommended by the programme. The results of follow-up sputum at the end of treatment (which according to G2 is performed) are not always recorded on the treatment card.

Each TB worker maintains a register similar to the BTC, but there is lack of uniformity among the registers maintained by all the workers. The AWWs maintain a village register where information about tuberculosis patients are to be recorded - these are neither uniform nor up-to-date.

3480

DIS 319





### 3. Cohort Analysis

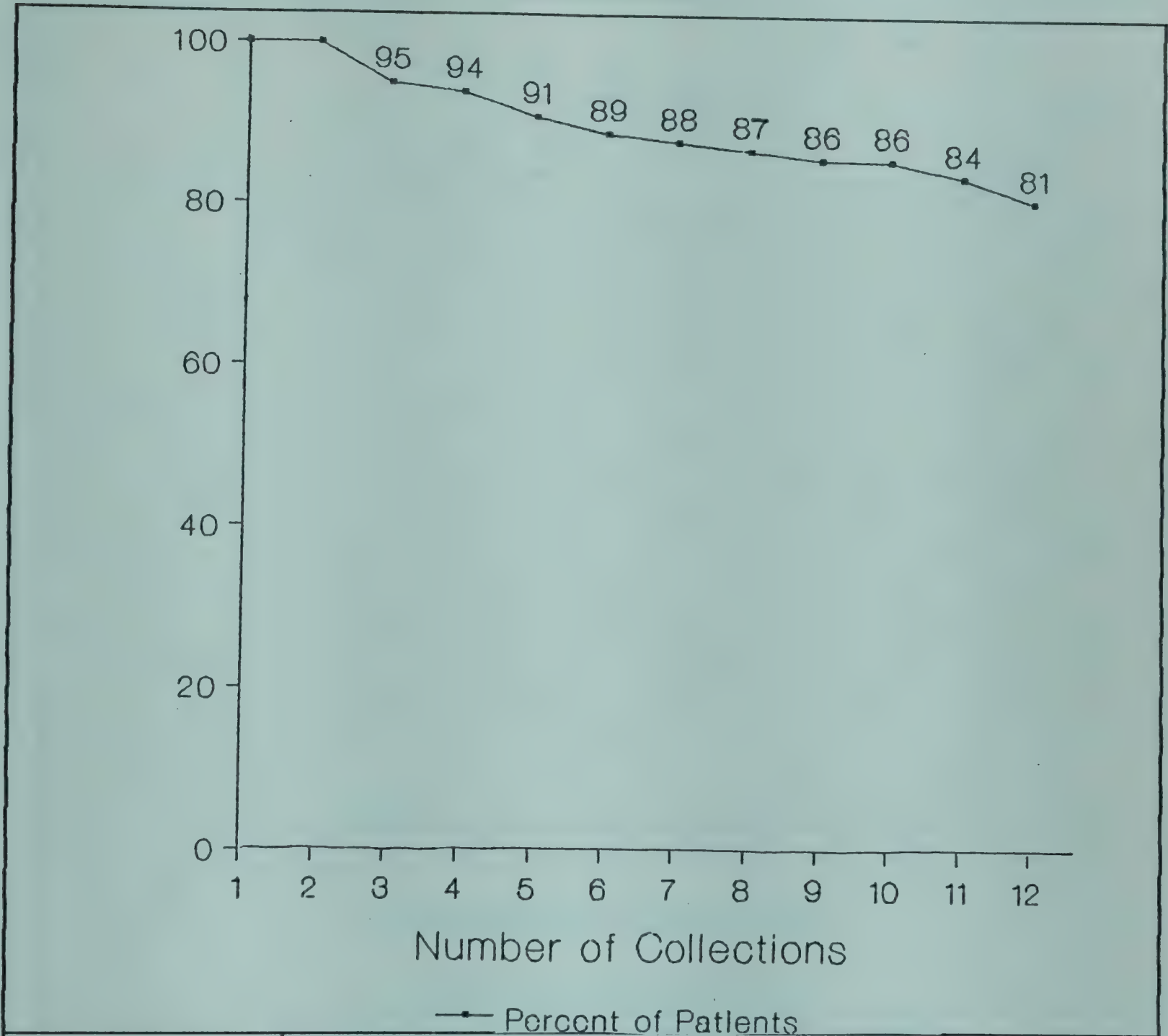
NOTE ON COHORT ANALYSIS : A total of 604 sputum positive patients who had been started on treatment between 1 January 1993 and 31 December 1993 formed the cohort. The cards of only 561 patients were available and hence the analysis was restricted to these cards. The cards had been obtained from three different TB clinics and hence the analysis has been done and presented separately for the three clinics. A combined analysis for the entire project has also been shown. Since the organization was using thrice weekly unsupervised short course regimen of 2(EHRZ)<sub>3</sub>/4(HR)<sub>3</sub>, the actual number of doses collected by each patient was calculated and these doses have been grouped for showing the pattern of collection. 100% drug collection is achieved after a total of 78 doses while 63 or more doses need to be taken in order to attain 80% drug collection.



3.1 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON INTERMITTENT REGIMEN IN CLINIC # 1 (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 239

NUMBER OF PATIENTS INCLUDED : 223



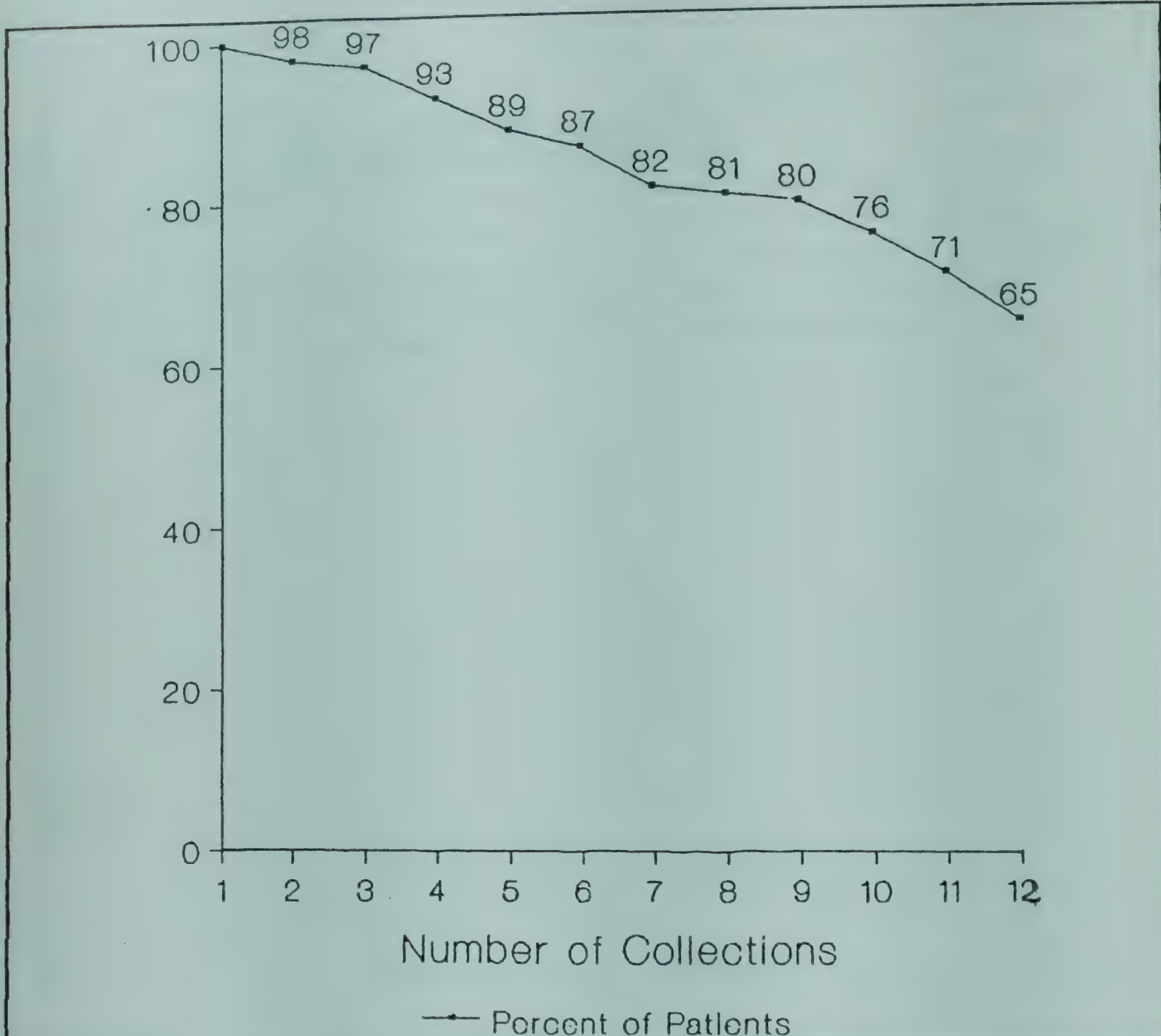
	DURATION OF TREATMENT (BREAKUP IN MONTHS)											
	1-6 (1)	7-12 (2)	13-18 (3)	19-26 (4)	27-32 (5)	33-38 (6)	39-44 (7)	45-50 (8)	51-56 (9)	57-62 (10)	63-68 (11)	69-74+ (12)
NUMBER OF PATIENTS	1	11	1	8	3	3	3	2	0	4	6	181
CUMULATIVE FREQUENCY	223	222	211	210	202	199	196	193	191	191	187	181
% PATIENTS TAKING DRUGS	100	100	95	94	91	89	88	87	86	86	84	81

OUTCOMES :	TOTAL	- 223	100% DRUG COLLECTION RATE - 81%
	C.O.P.T.	- 187 (84%)	80% DRUG COLLECTION RATE - 86%
	TRANSFERRED	- 2	CURE RATE - 84%
	LOST	- 31	
	FAILURE	- 0	
	EXPIRED	- 3	



3.2 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON INTERMITTENT REGIMEN IN CLINIC # 2 (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 274  
NUMBER OF PATIENTS INCLUDED : 247



	DURATION OF TREATMENT (BREAKUP IN MONTHS)											
	1-6	7-12	13-18	19-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74+
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
NUMBER OF PATIENTS	4	4	9	11	5	11	4	2	10	11	16	160
CUMULATIVE FREQUENCY	247	243	239	230	219	214	203	199	197	187	176	160
% PATIENTS TAKING DRUGS	100	98	97	93	89	87	82	81	80	76	71	65

OUTCOMES : TOTAL - 247

C.O.P.T. - 191 (77%)

TRANSFERRED - 0

LOST - 45

FAILURE - 2

EXPIRED - 11

100% DRUG COLLECTION RATE - 65%

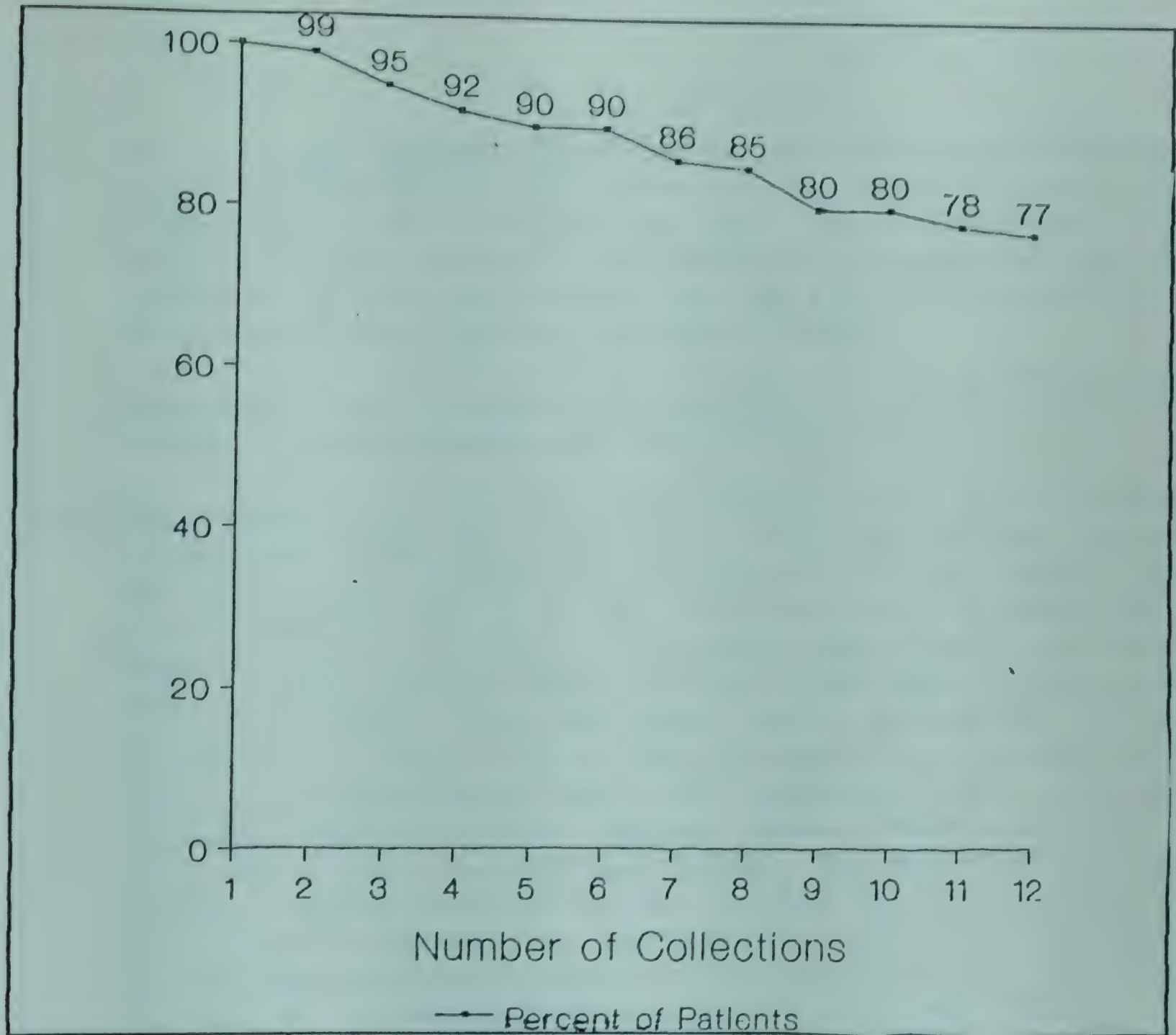
80% DRUG COLLECTION RATE - 76%

CURE RATE - 76%



3.3 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON INTERMITTENT REGIMEN IN CLINIC # 3 (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 91  
NUMBER OF PATIENTS INCLUDED : 91



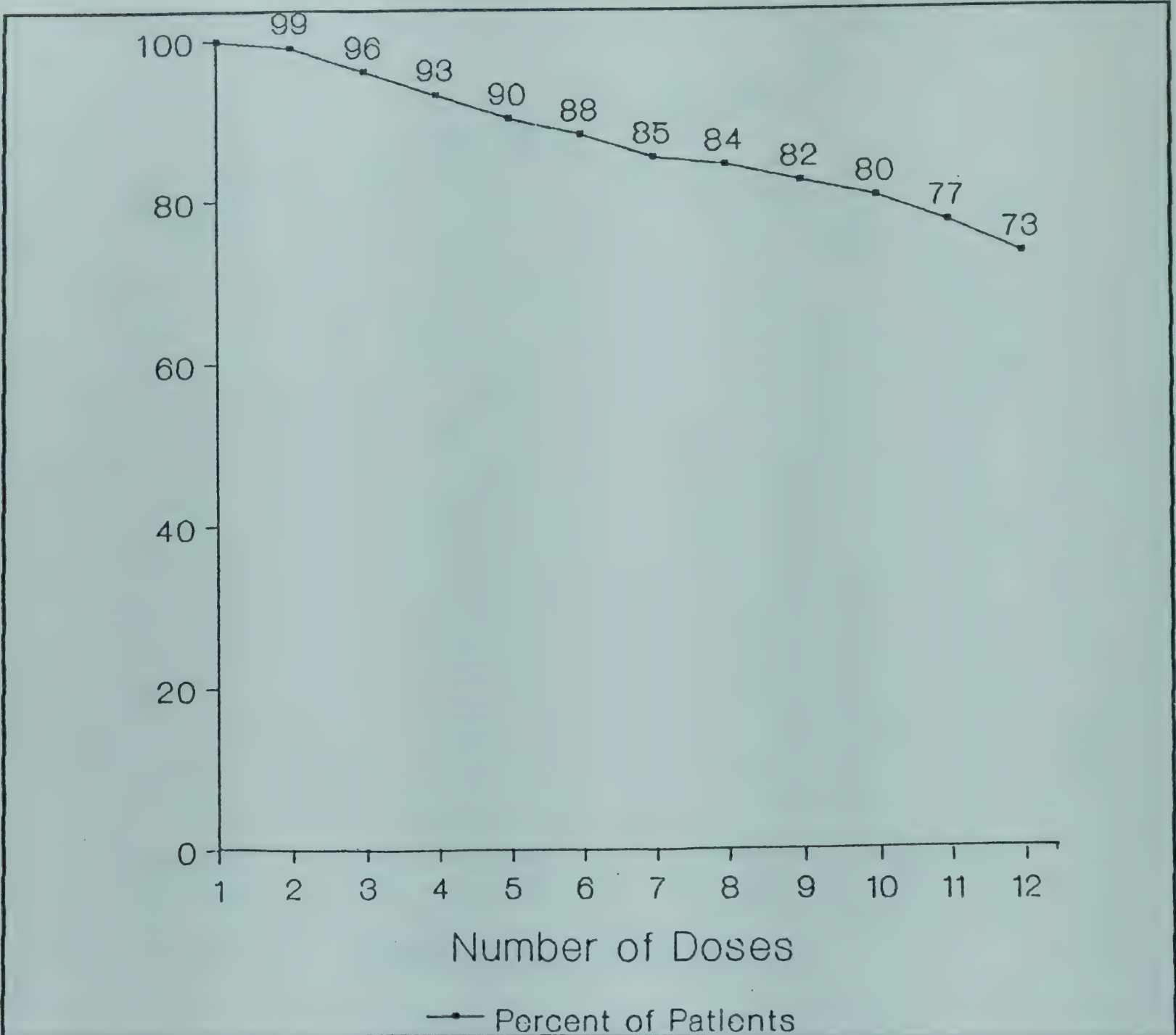
	DURATION OF TREATMENT (BREAKUP IN MONTHS)											
	1-6 (1)	7-12 (2)	13-18 (3)	19-26 (4)	27-32 (5)	33-38 (6)	39-44 (7)	45-50 (8)	51-56 (9)	57-62 (10)	63-68 (11)	69-74+ (12)
NUMBER OF PATIENTS	1	4	2	2	0	4	1	4	0	2	1	70
CUMULATIVE FREQUENCY	91	90	86	84	82	82	78	77	73	73	71	70
% PATIENTS TAKING DRUGS	100	99	95	92	90	90	86	85	80	80	78	77

OUTCOMES :	TOTAL	-	91	100% DRUG COLLECTION RATE	-	77%
	C.O.P.T.	-	71 (78%)	80% DRUG COLLECTION RATE	-	80%
	TRANSFERRED	-	1	CURE RATE	-	78%
	LOST	-	18			
	FAILURE	-	0			
	EXPIRED	-	1			



3.4 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON INTERMITTENT REGIMEN IN CENTRES 1+2+3 (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 604  
NUMBER OF PATIENTS INCLUDED : 561



	DURATION OF TREATMENT (BREAKUP IN MONTHS)											
	1-6 (1)	7-12 (2)	13-18 (3)	19-26 (4)	27-32 (5)	33-38 (6)	39-44 (7)	45-50 (8)	51-56 (9)	57-62 (10)	63-68 (11)	69-74+ (12)
NUMBER OF PATIENTS	6	19	12	21	8	18	8	8	10	17	23	411
CUMULATIVE FREQUENCY	561	555	536	524	503	495	477	469	461	451	434	411
% PATIENTS TAKING DRUGS	100	99	96	93	90	88	85	84	82	80	77	73

OUTCOMES : TOTAL - 561

C.O.P.T. - 449 (80%)

TRANSFERRED - 3

LOST - 94

FAILURE - 2

EXPIRED - 15

100% DRUG COLLECTION RATE - 73%

80% DRUG COLLECTION RATE - 80%

CURE RATE - 79.7%



## Organisation G3

Year of Establishment : 1949  
Catchment Area : Saurashtra, Northern Gujarat

### 1. Introduction

1.1 G3, an enormous hospital in Saurashtra, provides institutional-based medical services for patients suffering from tuberculosis and chest diseases through its in-patient and OPDs. The establishment of the hospital was made possible by the donation of 100 acres of land and Rs.100,000 by the local royalty and the gift of Rs.163,000 by a philanthropist after whom the institution is named.

1.2 FACILITIES : G3 is replete with facilities for medical consultation, diagnostic tests, treatment and hospitalisation if required.

1.2a Bed Strength : G3 - which was always intended to be a hospital and not a sanatorium - began with a bed strength of 48. This has been augmented over time and the hospital presently boasts of 747 beds, which is more than the combined total of all (TB) beds in the public services. 628 of these are placed in 23 general wards, three fourths being reserved for males. The justification offered for this is that female patients do not come in such large numbers and cannot usually get admitted for long periods of time. Around 44% of these are reserved and sustained through third party reimbursements from local (panchayat) bodies, the state government, Employment State Insurance Scheme, Western Railway, the Department of Post & Telegraph and the Labour Ministry of the Government of India. Around 46% of the beds are labelled "free" beds. These have been created through donations of Rs.100,000 or more and are allotted to patients who cannot afford to pay for their hospitalisation. Only 10% of the beds in the general wards are maintained by user charges. The hospital also has 119 cottages in six categories : Special Class Cottages (4), A Class Cottages (35), B Class Cottages (24), Special C Class Cottages (21), C Class Cottages (26), and D Class Cottages (9). These are rented out to patients at the monthly rate which vary between Rs.100 and Rs.500.

1.2b Diagnostic Facilities : The hospital is equipped with two laboratories and two Radiological Departments (one for in-patients and the other for out-patients). The laboratories are equipped to conduct sputum examinations, haemoglobin examinations, urine albumin and blood sugar. These are run by a group of three trained technicians and four students. Usually, the trained staff take it in turns to read slides, keep records and supervise students. The hospital also has the facility to conduct sputum cultures; perhaps the only NGO in the state with this facility. This



responsibility is handled separately by another trained technician with the assistance of students.

- 1.2c Facility for Surgical Procedures : The hospital's operation theatre is fully equipped for the performance of lung, cardiac and minor surgeries. However, this has been lying unused ever since the departure of G3's surgeon a couple of months ago.
- 1.2d Professional Competence : The staff includes nine doctors, 43 nurses, six laboratory technicians, two X-ray technicians, 72 ward boys/ayahs, 44 sweepers, 18 clerks, 36 kitchen staff and 22 utility persons like plumbers, electricians. The organisation is not plagued by staff turnover which brings in the possibility of inducing consistency in diagnostic and treatment practices. The average duration of stay is 18 years. In this there are variations and it is observed that the medical and para-medical staff remain for a shorter time than the non-medical staff (who are generally residents from the same or neighbouring villages). However, unlike other institutions in rural areas, G3 does not have a problem recruiting doctors, especially specialists in Chest diseases, since the hospital is looked upon as a training ground for private practice.
- 1.3 TUBERCULOSIS RESEARCH CENTRE : In 1974, a Tuberculosis Research Centre (TRC) was started with the sum of Rs.1,800,000. One of its early activities was Mass Miniature Radiography (MMR) Camps conducted with a view to generating epidemiological information about specific (occupational and other) groups. In 1986, the TRC was registered as a separate trust for administrative and financial convenience. At a practical level, however, the TRC does not have an existence that is in any way independent of the hospital. At present, the TRC conducts a one year's Certificate Course in Medical Laboratory Technology (CMLT) and a year's post graduate Diploma Course in Medical Laboratory Technology (DMLT) for students with a Bachelor's degree in Microbiology. The latter is recognised by the Bhavnagar University. The third activity of the TRC is to run a pharmacy for the dispensing of free medicines to selected patients residing in Bhavnagar District.
- 1.4 G3 is a huge organisation. With a campus of 100 acres, a bed strength of 747, an annual OPD load of nearly 50,000 and a staff strength of 246 persons, this conclusion is obvious. The hospital is one of 12 NGOs that receives 75% of its recurring expenditure from the state government. This amount was Rs.85,60,419 for 1993-94 which is one-third of the total grant-in-aid earmarked for these 13 voluntary organisations by the state government.

Despite this hefty grant towards the running of the hospital, the trustees are constantly worried about meeting ends. One of the trustees, who is an influential local politician cum social worker, takes a personal interest in identifying potential sources of funds and generating resources through



individual donations.

## 2. Tuberculosis Control Programme

- 2.1 APPROACH : G3's Tuberculosis Control Programme is focussed on treatment (which sometimes includes hospitalisation) from a clinical perspective. The hospital accepts patients suffering from pulmonary and extra-pulmonary tuberculosis into its programme. A majority of the patients suffer from pulmonary tuberculosis and are sputum negative : between January and December 1992, 77% fell into this category while 22% were sputum positive and the remaining 1% were patients suffering from extra-pulmonary tuberculosis.
- 2.2 PROCESS : The hospital runs a daily OPD from 7.30 am to 1.00 pm and from 4 pm to 6 pm. The doctors usually come in after 10.00 am when they have completed their rounds in the wards. This gives (suspected and confirmed) patients enough time to complete the initial formalities prior to their medical consultation. The routine to be followed by all people approaching the hospital for medical attention usually begins with registration. A down payment of Rs.70 (for adults) and Rs.90 (for children) which includes the registration fee as well as fees for diagnostic tests (namely, X-ray, sputum examination, blood and urine test) is taken from them. Cups for sputum collections as well as bottles for urine collection are given to patients with their case paper. A fresh case paper is given to patients during every visit to the hospital. In case patients have taken treatment before, they are expected to bring along their old case papers which are attached with the new one. Diagnostic tests are repeated during every visit and so the same amount of money is charged from old as well as new cases.

After getting themselves registered, patients are shown the way to the laboratory and the X-ray Department. Tests are conducted and results are made available to patients within what the hospital administration maintains is two hours. Once the results of all tests are in order, patients are sent by the OPD clerk to any one of the eight doctors running the OPD for a consultation. Patients requiring admission are sent to the Admissions Clerk who takes one months' bed-cum-food-and-drugs rent in advance as a deposit.

The hospital deftly handles the crowds of (suspected) patients and their escorts who come in each day. The system is so well established that there is no real scope for confusion. However, this mechanical efficiency is often achieved at the expense of interpersonal communication. This is particularly true in the matter of specific instructions about diagnostic tests and health advice.

- 2.2 CASE FINDING : The hospital plays a significant role in the detection of



new cases of tuberculosis. This statement can be made in light of the fact that it accounts for 7.5% of new case detections by both public as well as government-aided voluntary agencies in the state. The hospital conducts both active and passive case finding. These two activities are mutually exclusive.

Active case finding through MMR camps has been one of the on-going, though sporadic, activities of the TRC since 1975. These camps are held at the behest of other voluntary groups like the lions/giants/rotary clubs who are required to pay G3 a sum of Rs.7500 (which go towards meeting 50% of the expenses). These camps are run by a team of 15 to 20 consisting of three to five doctors, two X-ray and two laboratory technicians, two record clerks, helpers, drivers and two peons. The hospital is also expected to inform the respective DTC who sends a representative to follow up the treatment of diagnosed cases.

So far the organisation has conducted 448 camps all over Gujarat (but especially in Bhavnagar and Saurashtra) and occasionally in Rajasthan and Maharashtra. Diagnosis of tuberculosis during these camps is essentially based on X-ray pictures. Case finding efficiency in camps veer between 12% and 26%. Between April 1993 and March 1994, 46 camps were held, a total of 6594 patients were investigated and the case finding efficiency was 23.5%. On the whole, it is the more senior members of the hospital who believe that diagnostic camps are beneficial since they yield useful epidemiological information about certain pockets of the population (like certain occupational groups) and help to draw patients into the mainstream of treatment before their disease is too far gone.

The other venue for case finding is the daily OPD and it is to this that hoards of people from different parts of the state flock. Informal conversations with them reveal that it is their faith in the organisation that brings them to it from long distances.

ITEMS OF INFORMATION	REFERENCE/CALCULATION	TIME PERIOD	
		Jan-Dec 1992	Jan-Dec 1993
1. New Patients in the OPD	Reported Data	33735	33697
2. Total Number of Cases Detected	Reported Data	9574	7561
3. Sputum Positive	Reported Data	21.6%	25.7%
4. Sputum Negative	Reported Data	77.2%	73.5%
5. Extra Pulmonary	Reported Data	1.2%	0.9%
CASE FINDING EFFICIENCY	(2)/(1) X 100	28.4%	22.3%

Out of 33,735 new patients registered in the OPD in (January to December) 1992, 9,574 were detected as having tuberculosis. The case finding efficiency rate of the OPD is 28.4%. The rate for 1993 was 22.3%. Case efficiency rates appear to have an inverse relationship with utilisation rates. Therefore, patients from Bhavnagar make up approximately three



fourths of the total patient load but only 15.7% get diagnosed as tuberculosis patients. In contrast, patients from northern Gujarat constitute less than 1% of the total patient load but show a case finding efficiency of nearly 40%. It is obvious, therefore, that G3 tends to be utilised as a hospital for the treatment of general health complaints (rather than as a specialist institution) by patients who have relatively better access to it than by those who need to make a long journey in order to reach it.

Diagnostic tests are conducted in the hospital for all patients. The laboratory and radiological units catering to out-patients are required to perform 200 to 300 X-rays and sputum examinations in a day.

The quality of sputum collections is not uniformly good. The absence of specific instructions on how sputum should be expectorated, results in the laboratory receiving saliva instead of sputum. When that happens, the (suspected) patient is recorded as being sputum negative. How many of the sputum negative patients fall into this category is not easy to pinpoint. The organisation does not maintain information such as this. However, one of the technicians working in the laboratory was of the opinion that this proportion would be around 40%.

Sputum cultures are conducted for some resistant cases. The time that is taken for the primary formation is six to eight weeks with an additional six to eight weeks for the sensitivity test. The cost of the sputum culture examination is Rs.30.

**2.3 TREATMENT :** The diagnosis of the patients disease is done by any one of the eight clinicians handling the OPD load. Although the utility of sputum results is recognised, it is the X-ray picture which provides the ultimate testimony about the disease.

Hospitalisation is advised for sputum positive patients with or without complications like diabetes, hypertension, kidney failure, asthma, or emergency conditions (like pleural effusion) and for those who have nowhere to go for treatment. This decision is left to the medical judgement of the doctor. In 1992 (January to December), out of 9574 patients started on treatment, approximately 44% was hospitalised. The average duration of hospitalisation is three to four months.

The doctors also decide on what regimens need to be followed. While it is true that certain guidelines are followed (for example, the use of four drugs during the intensive phase and two in the maintenance phase), a certain amount of flexibility is accepted as an inevitable outcome given the tendency for doctors to judge individual patients clinically. Treatment is normally prescribed for eight months. In addition, doctors also have the benefit of a conference every week during which they have the opportunity to discuss their cases with their colleagues.



Patients who are not admitted are normally prescribed medicines which they are expected to purchase elsewhere. There are two chemists that have been set up opposite the campus of the hospital and they sell AKT drugs including the more expensive drugs given as the second line of treatment to resistant cases. The hospital does, however, give drugs free to certain patients provided they are economically needy and residents of Bhavnagar District. This concession is made available at the discretion of the MS. Out of 9,574 patients diagnosed in 1992, 1617 patients (ie.nearly 18%) were given drugs free.

- 2.4 CASE HOLDING : G3 suffers a poor case holding efficiency. Despite its contribution to case finding in the state, the hospital accounts for only 1.4% of all the treatment completions. Such a finding is perhaps to be expected in a programme where a predominant role for institutional-based services precludes the possibility of a community/outreach programme. Therefore, despite a large staff strength, G3 does not have the capability for active case holding activities.

The hospital does not keep track of the treatment regularity of out-patients who are given drug prescriptions. They are merely advised by the attending doctor to return after two to three months for a follow up. However, this follow-up is clinical in nature wherein another round of diagnostic tests and medical assessment are done. Even so, it is rarely the same doctor who examines the patient when s/he returns for a follow up visit.

The second group of patients are those who are hospitalised for the initial duration of their treatment. The treatment of these patients are supervised as long as they are admitted. There are problems here since 20% to 35% of the admitted patients leave against medical advice. On being discharged, these patients begin to either purchase drugs elsewhere (in which case they fall into the first group) or collect medicines at no cost from the TRC (in which case they fall into the third group).

The third group of patients belong to the 18% which receives drugs free. For such patients, the hospital maintains treatment cards. Therefore, it is possible for the Programme to keep track of their treatment regularity. Further, when the question of patient regularity is approached from an economic point of view, it is in the hospital's interests to see that these beneficiaries do not squander the investment that it makes on them. Still, there is no strategy for case holding. Instead, G3 sometimes imposes punitive measures, in case patients fail to turn up, by withdrawing their names from the scheme. Once again, this is done under the direction of the MS.

The weakness of this aspect of the Programme is reflected in the cohort analyses presented in the next section. The significant finding lies in the comparatively better treatment collection rates of the group of



patients who were initially hospitalised.

- 2.5 RECORDS AND REPORTS : The system of record keeping is organised and surprisingly meticulous despite the heavy rush in the OPD. Registers are maintained in all the departments that patients come in contact with while making their rounds in the hospital right from the registration clerk to the X-Ray Department, laboratory, OPD clerk (similar to the BTC used by the NTP) and Admissions Clerk (wherever applicable). Since they are filled in on the spot, records are constantly and simultaneously updated in the course of a day's work.

The second kind of records that the hospital maintains are treatment cards for patients receiving free drugs. Here a colour code is followed. Discharged patients are recorded on blue cards, sputum negative patients on yellow cards and sputum positive patients on red cards. Sometimes, however, when one or the other colour falls short, the clerk takes whatever is available. Thus, the system, though good, is not always maintained. Treatment cards are arranged according to the date on which patients are expected to arrive for their next visit.

G3 is obliged to submit reports periodically to the DTC. However, it prefers to hand them to the Directorate at the state capital to prevent the DTC from usurping their statistics and passing it off as its own. When these reports have to be compiled, one of the clerks compiles and culls out relevant information from the respective registers.

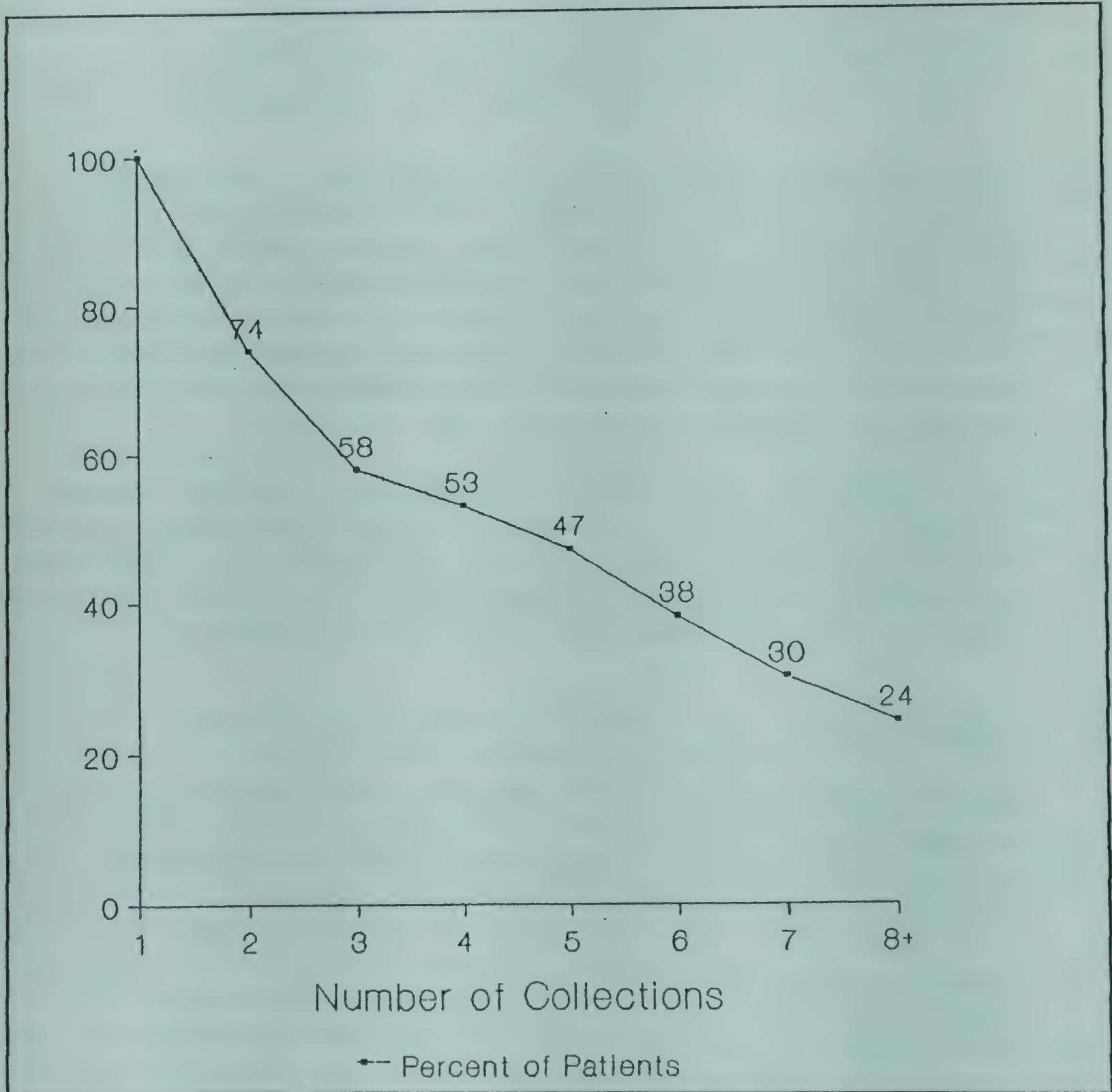
### 3. Cohort Analysis

NOTE ON COHORT ANALYSIS : A cohort analysis was attempted from the treatment cards of 1322 (out of 1617) patients given free drugs for the period between January 1 and December 31, 1992. 160 cards of these were excluded from the analysis out of the total of 1617 cards for two reasons - pediatric cases (111) and incomplete information (49). Since fresh treatment cards were prepared by the NGO for patients discharged after hospitalization, the sputum status was mentioned as negative for all of them. Though details about the period of hospitalization was available, the original sputum status was not available. Hence all discharged patients are assumed to be sputum positive as per the norms of the hospital for hospitalising patients.

While some patients had made fortnightly drug collections, others had made monthly collections. We converted all of these into monthly collections. The 100% treatment collection rate for 450 discharged (deemed sputum positive) cases is 55%, for 135 sputum positive OPD patients on SCC is 24% and for 394 sputum negatives on SCC is 18%. 484 sputum negative patients put on SR have a 100% collection of less than 1%.

3.1 DISTRIBUTION OF SPUTUM POSITIVE PATIENTS ON SCC (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 149  
NUMBER OF ADULT PATIENTS : 140  
NUMBER OF PATIENTS INCLUDED : 135



	DURATION OF TREATMENT (IN MONTHS)							
	1	2	3	4	5	6	7	8+
NUMBER OF PATIENTS	35	22	6	9	12	11	8	32
CUMULATIVE FREQUENCY	135	100	78	72	63	51	40	32
% OF PATIENTS TAKING DRUGS	100	74	58	53	47	38	30	24

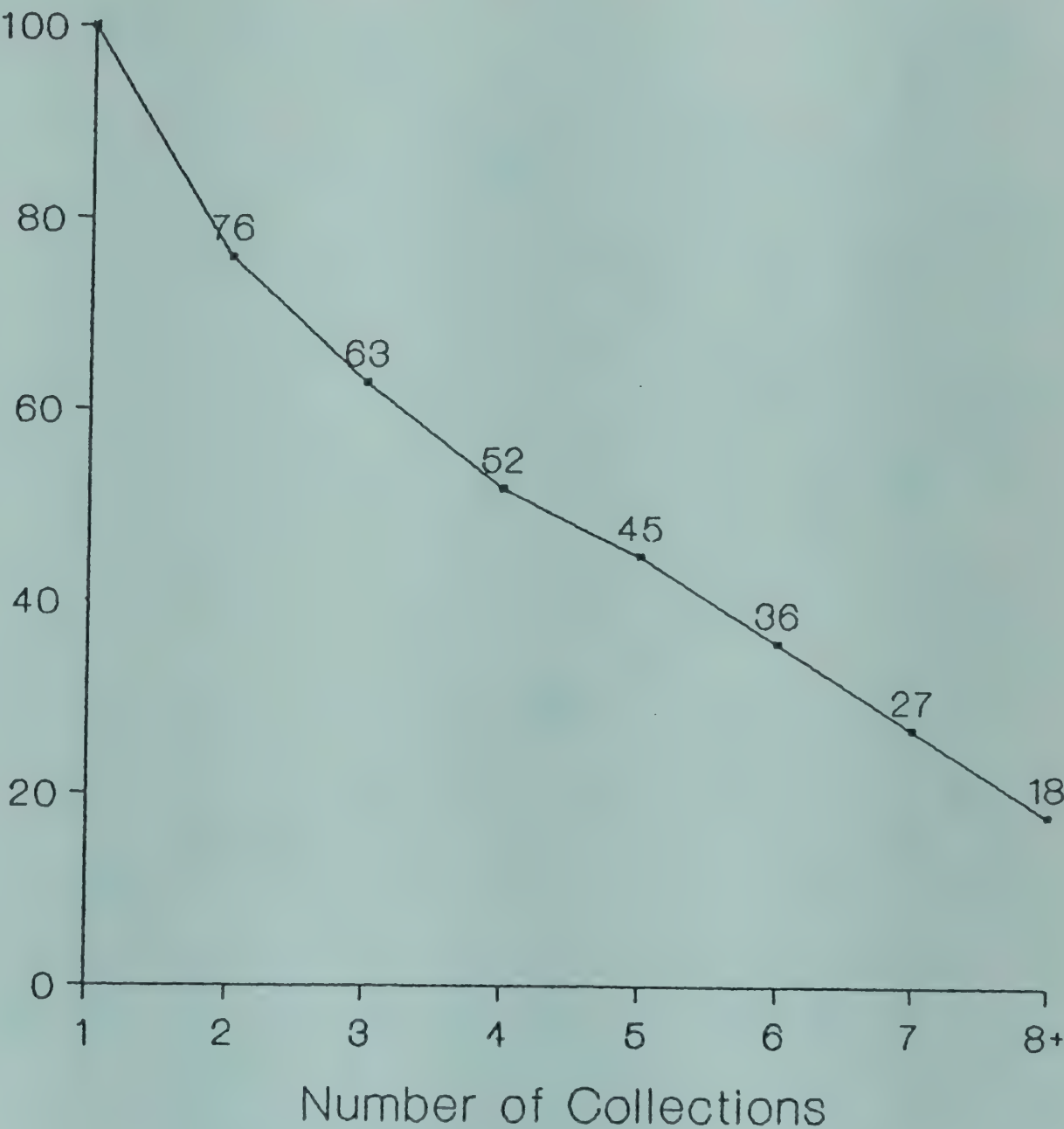
OUTCOMES : TOTAL - 135  
C.O.P.T. - 12 (9%)  
NO RESPONSE - 123

100% DRUG COLLECTION RATE - 24%  
80% DRUG COLLECTION RATE - 38%



3.2 DISTRIBUTION OF SPUTUM NEGATIVE PATIENTS ON SCC (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 442  
NUMBER OF ADULT PATIENTS : 394  
NUMBER OF PATIENTS INCLUDED : 394



■ - Percent of Patients

	DURATION OF TREATMENT (IN MONTHS)							
	1	2	3	4	5	6	7	8+
NUMBER OF PATIENTS	95	50	43	27	39	33	37	70
CUMULATIVE FREQUENCY	394	299	249	206	179	140	107	70
% OF PATIENTS TAKING DRUGS	100	76	63	52	45	36	27	18

OUTCOMES : TOTAL - 394

C.O.P.T. - 33 (8%)

LOST - 1

NO RESPONSE - 359

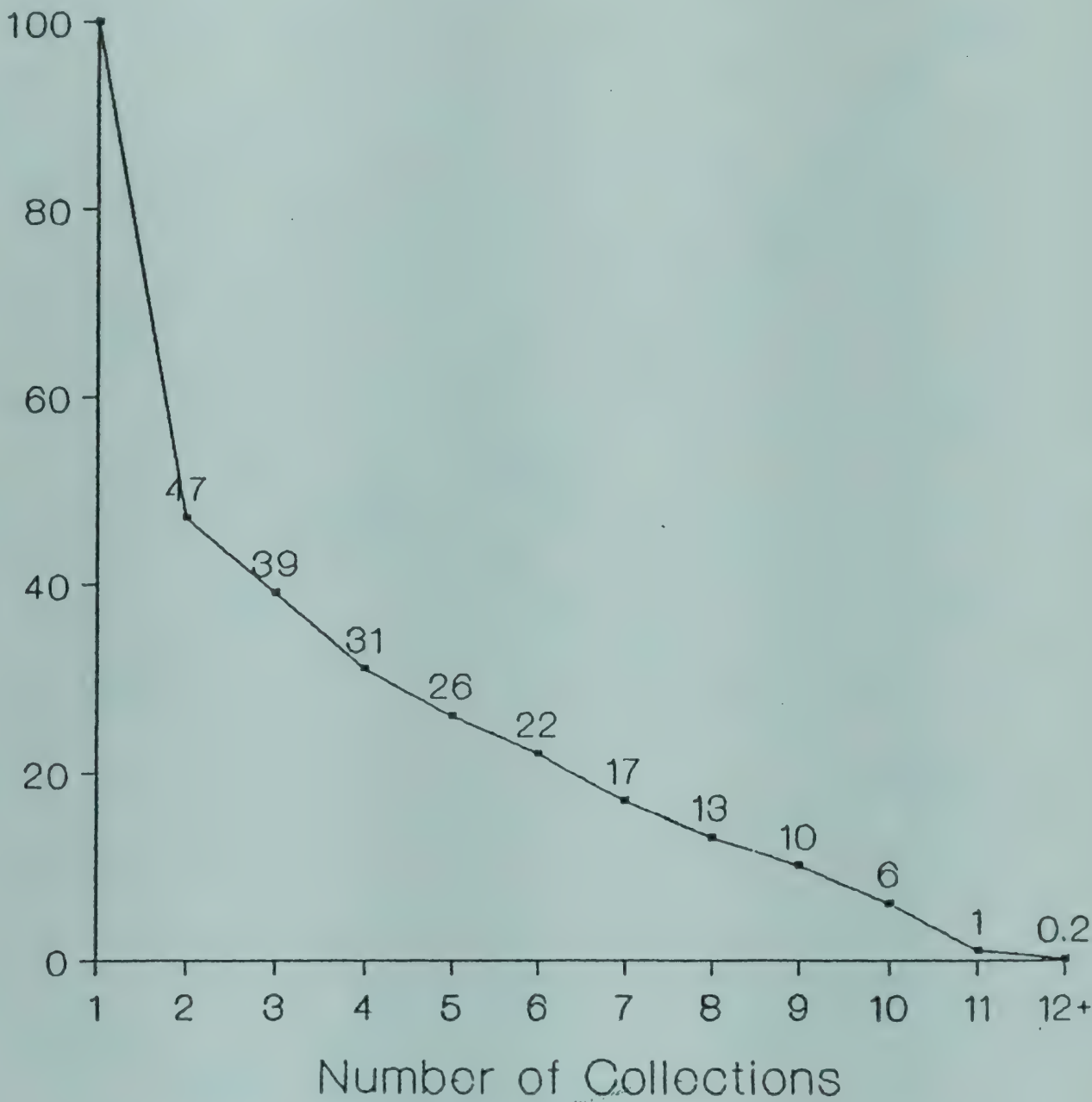
100% DRUG COLLECTION RATE - 18%

80% DRUG COLLECTION RATE - 36%



3.3 DISTRIBUTION OF SPUTUM NEGATIVE PATIENTS ON SR (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 500  
NUMBER OF ADULT PATIENTS : 487  
NUMBER OF PATIENTS INCLUDED : 484



	DURATION OF TREATMENT (IN MONTHS)											
	1	2	3	4	5	6	7	8	9	10	11	12+
NUMBER OF PATIENTS	255	42	37	24	19	24	19	16	21	21	5	1
CUMULATIVE FREQUENCY	484	229	187	150	126	107	83	64	48	27	6	1
% PATIENTS TAKING DRUGS	100	47	38	31	26	22	17	13	10	6	1	.2

OUTCOMES : TOTAL - 484

C.O.P.T. - 40 (8%)

TRANSFERRED - 15

NO RESPONSE - 429

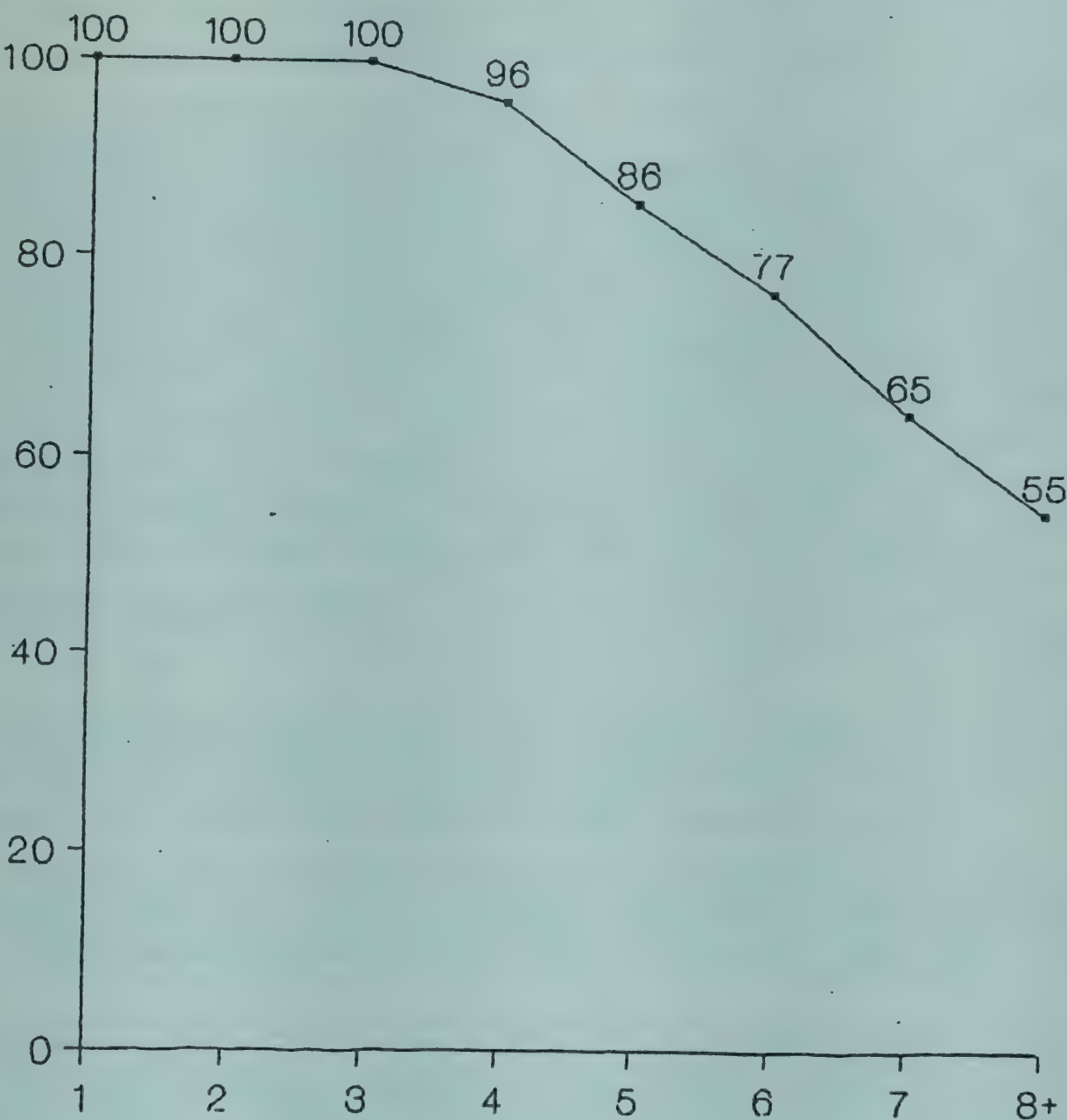
100% TREATMENT COLLECTIONS - 0.2%

80% TREATMENT COLLECTIONS - 6%



3.4 DISTRIBUTION OF DISCHARGED PATIENTS ON SCC (1.1.92 to 31.12.92)

NUMBER OF PATIENTS TREATED : 462  
NUMBER OF ADULT PATIENTS : 450  
NUMBER OF PATIENTS INCLUDED : 444



Number of Collections

—●— Percent of Patients

	DURATION OF TREATMENT (IN MONTHS)							
	1	2	3	4	5	6	7	8+
NUMBER OF PATIENTS	0	1	19	43	39	54	46	242
CUMULATIVE FREQUENCY	444	444	443	424	381	342	288	242
% OF PATIENTS TAKING DRUGS	100	100	100	96	86	77	65	55

OUTCOMES : TOTAL - 444

C.O.P.T. - 117 (26%)

LOST - 1

NO RESPONSE - 326

100% DRUG COLLECTION RATE - 55%

80% DRUG COLLECTION RATE - 77%



## ORGANISATION G4

Year of Establishment : 1954  
Location : Anand, District Kheda, Gujarat  
Catchment Area : Entire Gujarat and adjoining areas of  
Madhya Pradesh and Rajasthan

### 1. Introduction

- 1.1 G4, an institution-based organisation, was created to treat patients suffering from tuberculosis, especially those belonging to poorer classes. It operates a TB clinic centrally located near the railway station and a 68-bedded TB hospital situated in the periphery of the town. Despite its modest infrastructure, the organisation handles one of the largest out-patient load of any NGO in the state. The organisation manages to attract patients from the entire state as well as adjoining states : out of all the out-patients identified by the clinic, 40% are residents of Kheda district while 33% come from other districts in Gujarat and 27% from other states. The organisation is one of 13 voluntary organisations receiving grant-in-aid from the Government of Gujarat. In 1993-94, this amounted to Rs.15,29,700.
- 1.2 G4 is run by a trust which is headed by a practicing ophthalmologist who takes most decisions regarding administration of the TB clinic. The trust also has a few other prominent doctors from the town on its managing committee who meet occasionally to discuss administrative problems. An administrator has been given the responsibility of day-to-day running of the clinic. The trust employs a total of 18-20 full-time workers.
- 1.3 The employees, most of whom have been working with G4 for several years, feel a sense of pride in their work and express satisfaction with the trust, although there is a feeling especially among the younger employees that they are understaffed and hence the existing staff are overburdened. Most of the staff are locals and some of the technical staff have received formal training.

### 2. Tuberculosis Control Programme

- 2.1 The Tuberculosis programme has three components - the out patient clinic offering domiciliary treatment, the TB hospital and a domiciliary home treatment programme implemented through village-based treatment centres. The third programme is implemented through collaboration with more than 50 PHCs in the district. G4 handles one of the largest out patient load in the state - in the year 1993-94, a total of 18,045 patients were registered by the TB clinic and 1,491 were registered under the home



treatment programme.

2.2 PROCESS : All new chest symptomatics are given case papers and identity cards for three hours in the morning and one hour in the afternoon. An amount of Rs.10 is collected (Rs.2 for the case paper and Rs.8 for the 70 mm X-Ray) from each patient. Patients then go to the radiological department and laboratory for their investigations. The X-Rays are read by the MOs running the OPD and the patients whose X-Rays are positive are prescribed treatment. After meeting the doctor, all patients come back to the registration clerk where they are labelled as TB positive or TB negative in the register and the patient identity card and case papers of TB negatives are filed. All TB positive patients are asked to pay Rs.7 for their monthly quota of drugs and sent to the pharmacy for collecting their medicines; their case papers are later sent back to the clerk who files these separately. All case papers are filed month-wise and year-wise. The clerk enters the names and registration numbers of all registered cases for the day (positives and negatives) in a village register. Whenever a negative patient comes back to the clinic with symptoms, his case papers are traced out easily with the help of the village register, in the absence of his identity card. The daily OPD load is about 100 new patients and 150 to 200 old patients.

2.3 CASE FINDING : The clinic is well reputed and draws patients from all over the state and also adjoining states. Most patients are self reporting or are referred by other patients to the clinic. The utilisation of the clinic by locals from the town is limited, since it is viewed as catering to the very poor.

Examination of spot sputum specimen (collected in labelled cardboard boxes) and X-Ray chest (70 mm) is done for all patients. Large X-Ray plates are used for pediatric cases and in cases where the doctor makes a specific request (patients are made to pay Rs.25 for the large plate). The confirmation of diagnosis is purely on the basis of the X-Ray read by the doctor. (One of the doctors holds a degree in homeopathy and has been with G4 for several years while the other is a resident doctor with a licentiate certificate looking after the hospital also). The sputum result if found positive, is conveyed to the patient by post. Sputum examination is not done during follow-up. The X-Ray is repeated after 6 months and if lesions are large, treatment period is extended to 2 years.

The radiology department is managed by an X-Ray technician and an assistant, both of whom have received on-the-job training. They handle a very large daily load (35,341 X-Rays were taken in the year 93-94)

The laboratory is run single-handed by a technician who is a graduate in microbiology and has been with G4 for more than 20 years. Smears are prepared by an assistant and the technician stains and examines close to 150 smears in a day, taking about a minute and a half to two minutes to



examine one slide (21,913 smears were examined in 93-94). Though the technician admits to compromising on the time taken by him and the number of fields examined, he feels confident of his quality of reporting because of his years of experience.

- 2.4 TREATMENT : All patients receive SR of 18 months of INH and Thiacetazone. Those who have extensive lesions on X-Ray or are very sick are offered Rifampicin for a minimum of 4-6 months (once, twice or thrice weekly based on the patient's ability to pay - each capsule costs the patient Rs.2.50). Drugs are dispensed by a compounder in plastic packets.

Patients coming from the same district are given a month's quota of drugs while those from outside are given two month's quota. Drug supply is regular - G4 receives 20% of its drug requirements from the Central Govt. and the rest is purchased from drug companies every month. Close to Rs.120,000 worth of drugs are purchased every month and two to three weeks stock is always maintained. The daily consumption of INH and Thiacetazone is 15,000 tablets.

- 2.5 CASE HOLDING : G4 has a very poor case holding efficiency - not more than 10% of its patients are regular (according to the organisation itself). Cohort analysis was not performed since sanction could not be obtained. However, on the basis of information filed by G4 with the State TB Directorate, a rough analysis has been attempted. The exercise reveals a treatment completion rate of 12%.

There are some feeble attempts made to improve case holding in the form of talks by the social worker with patient groups - new, old and defaulters. However, this is not a regular and defined activity. Having spent more than 30 years with G4, the social worker is a multipurpose man - he takes visitors around, oversees all the departments and is in complete charge of the daily and monthly statistical compilation.

Another attempt at defaulter retrieval is sending of post cards to defaulters. Patients not collecting drugs for more than 15 days after their due date are identified (this is not an easy task, since there are no treatment cards and the case papers are filed according to their registration numbers) and sent a standard printed reply-paid postcard asking them to identify the reason for their default and requesting them to report back for treatment. This is again not a very regular activity - no postcards have been sent in the year 1993-94 because G4 has exhausted its stock of printed postcards. In the year 1992, a total of 1750 post cards were sent and replies were received from 693 patients (40%). There is, however, no information available on the number of patients who returned for treatment.

- 2.6 RECORDS AND REPORTS : The recording system of G4 is meticulous and monthly reports are regularly prepared and filed. Year-wise details from



1979-80 to-date are available with each department. The registration clerk has separate registers in which new chest symptomatics and old patients are entered by name and number. The earlier register also has information on whether the patient is TB positive or TB negative; the village register has the same information. The laboratory and radiology departments also keep information on old and new cases - daily and monthly reports are compiled and numbers of new and old patients and numbers of positives and negatives are given.



## ORGANISATION G5

Year of Establishment : 1962  
Location : Kheda District

### 1. Introduction

- 1.1 G5, a rural-based tuberculosis sanatorium, was established at a time when the necessity of institutional-based care in the treatment of tuberculosis was being seriously questioned. It is situated amidst lush green surroundings in an isolated campus of 60 acres, some 10 km. from a taluka headquarter of Kheda District.

The sanatorium is one of four health institutions managed by a private Medical Trust. The other institutions managed by it are a General Hospital, a Teaching Hospital of Ayurveda and a Training School for Nursing. The President and Secretary of the Trust, being businessmen, evaluate the institutions under their custody from the point of view of the returns that they bring in. Since the sanatorium brings the trust neither revenue nor status, it is a least preferred institution in the eyes of the trustees. As a result, the sanatorium is a neglected institution which survives - despite all the inattention - due largely to the grant of Rs.7,36,146 that comes in from the state government.

- 1.2 FACILITIES : The sanatorium is provided with facilities for medical consultation, admission and follow up diagnostic tests. It handles a large load of patients suffering from pulmonary and extra-pulmonary tuberculosis : 1062 such persons were, reportedly, treated between January to December 1993.

- 1.2a Bed Strength : The sanatorium is provided with 112 beds. 20 of these are reserved for females and nine are set aside for patients requiring special care. The average monthly bed occupancy is 80.

- 1.2b Diagnostic Facilities : Facilities for laboratory investigations (sputum examination and blood test) exist. However, radiological investigations, which were also possible until the beginning of 1994, have not been possible since the X-ray machine stopped working. The machine has not yet been repaired.

- 1.2c Professional Competence : The sanatorium is run by a staff of 27 comprising a Resident Medical Officer (RMO) with an MBBS degree, seven trained nurses, three technicians for conducting radiological and laboratory investigations, five administrative staff, five subordinate staff, a ward boy, a watchman and four cooks. These are the full time employees of the institution. In addition, the sanatorium utilises the



services of a Chest Specialist (who comes in once a week) and a laboratory technician (who comes in thrice a week from the trust's General Hospital). The former is paid a salary while the latter is paid by the Hospital from where she comes.

The responsibility of examining patients and prescribing a line of treatment is taken on by the visiting Specialist with the help of the RMO. The responsibility of managing the wards for 24 hours is effectively taken over by the nurses.

The staff suffer from low morale and relatively poor wages. However, they choose to remain in the organisation due to the availability of living quarters and the absence of viable employment elsewhere.

## 2. Tuberculosis Programme

2.1 Little is known about the genesis and evolution of the sanatorium since none of the persons associated with it have been around long enough to recount its history. Even the RMO, who has been working for the longest period of time, was indisposed and unable to give us such information.

Today, G5 provides institutional-based medical services for tuberculosis patients. Ironically, despite its status as a Tuberculosis Sanatorium, the institution does not have a Tuberculosis Control Programme. Information presented in the following sections on Case Finding, Treatment and Case Holding will explain why this is so.

2.2 CASE FINDING : At present, G5 does no case finding - active or passive. Till March 1994, the sanatorium operated an OPD for the whole day to which patients from nearby areas would come directly or with referral slips from their private practitioners or other referring agencies. This service has been discontinued in view of the advancing age of the RMO and his ill-health.

Instead, the trust has started a thrice weekly two hour OPD in their General Hospital for the identification, confirmation and treatment of patients suffering from tuberculosis. Those from among this group requiring in-door admission are referred to the sanatorium for treatment.

There are no eligibility criteria that need to be met in order to avail of the facilities of the sanatorium in terms of location of the disease, sputum status, age or domicile. Out of 110 patients admitted between January and December 1992, 15.5% were sputum positives, less than 1% were paediatric and nearly 90% were residents of Kheda District (though not necessarily of the same Taluka).

The sanatorium charges Rs.10 per day for in-door admittance. This



includes food, drugs, medical consultation, nursing care and investigations. Some patients are also given tonics. Patients who submit recommendatory notes from the Village Headman or a private practitioner are sometimes provided these services at not cost. The cost of in-door services are heavily subsidised since the actual reported cost of these are Rs.60 to 65 per patient per day.

The only diagnostic tests conducted at the sanatorium are for admitted patients as part of their (clinical) follow-up. A laboratory technician working in the General Hospital (run by the trust) comes in thrice a week on alternate days for such investigations. These include the blood (ESR and CBC) test and sputum examination of the admitted patients. The sputum collections are made in cardboard cups produced locally.

- 2.3 TREATMENT : The responsibility of treating admitted patients is taken on by the two doctors on the payroll of the sanatorium. The RMO takes on the more routine work of medically examining patients and monitoring their treatment. In case the RMO is indisposed, a doctor from the General Hospital makes visits on Mondays, Wednesdays and Fridays to monitor the condition of patients.

However, the responsibility of prescribing regimens is assigned to a visiting Chest Specialist who comes in on Wednesday. These regimens could be 2HERZ/7-9HR or 2SHRZ/7-9HR for fresh cases and a second line of treatment with drugs like Kanamycin, Ethionamide, Cycloserine and Ciprofloxacin for relapse cases who return for treatment. These regimens are not uniform but are drawn out in accordance with the results of the Specialist's clinical assessment and the economic condition of patients.

- 2.4 CASE HOLDING : G5 does not subscribe to a case holding strategy. It has neither the cognisance nor the means to implement such a strategy. Patients are usually discharged after an average duration of one to two months. Discharges are recommended to patients only on the advice of the Specialist. Information about patients discharged against his advice is recorded in the register. Between January and December 1992, this proportion worked out to approximately 7% of all admitted patients.

After they are discharged, patients are merely asked to continue with their treatment at a PHC or any other facility near their residence. If it suits them, patients are also referred to the General Hospital (where they can collect weekly installments of AKT drugs at no cost) or to a temple trust-run clinic. Since the sanatorium does not concern itself with patients after they leave it, the question of recording information about treatment completion does not arise.

However, the implications of this short-term involvement in the patients' welfare are serious from the point of view of their treatment. The inconsistency in regimens between the sanatorium and government-run



institutions throws open the prospect of relapses. On an average, 25 to 30% of the patients admitted in the sanatorium belong to this category (although it is not clear whether they were all previously treated here). Since all relapse cases are treated with a second line of treatment - unnecessarily some would argue - their access to such drugs after discharge is doubtful.

- 2.5 RECORDS AND REPORTS : G5 does not maintain any records about the treatment of patients. The only record is in the form of a register with details about the patient's register number, name, address, age, sex, sputum status, date of admission, date of discharge and outcome if any.

Previously, when an OPD was run, the sanatorium used to maintain treatment cards which would be submitted to the institution (usually the neighbouring PHC) to which patients were referred. This system does not exist any more.

Since the organisation receives funds from the government, they are expected to submit reports to the DTC periodically.



## ORGANISATION G6

Year of Registration : 1972  
Year of Establishment : 1985  
Location : Ankleshwar, District Bharuch, Southern Gujarat

### 1. Introduction

1.1 G6, a well endowed trust hospital in southern Gujarat, was instituted in order to consecrate the memory of two of the Managing Trustee's relations. The decision to locate the organisation in one of the more backward quarters of Bharuch District did not follow any elaborate selection procedure. Rather, this was the family's native village and it seemed only natural that they should target this population for their philanthropic work. The initial motivation to create an organisation providing medical care was provided by a realisation that the area was bereft of such facilities and the decision to route this through a hospital was made in view of the availability of funds.

1.2 The organisation is comprised of three projects which were introduced in isolation from each other and at various points in time. Thus the health programme preceded several income generating programmes for women and farmers. The economic programmes for women take the form of home based production activities while aquaculture is a newly introduced project for farmers. The latest addition to G6 by way of activity is the running of the ICDS scheme in 20 villages on behalf of the government.

The health programme is conceived as an institutional-based service where curative care wins precedence over preventive care. Promotive health care is virtually non-existent.

The infrastructure through which these medical interventions are initiated is a 30-bedded hospital replete with facilities for medical consultation, diagnostic tests, surgical procedures and hospitalisation which are offered at nominal rates. The hospital's involvement in the community is limited to occasional diagnostic camps.

1.3 The staff recruited to manage the activities of the hospital number 30. The medical staff include three full time doctors - a surgeon, a gynaecologist and a RMO with an MBBS degree. The hospital has suffered due to the absence of a physician and has a great deal of difficulty in attracting doctors despite generous salaries and well constructed living quarters. In addition, the hospital has several part-time medical specialists who render honorary service. These include a Dentist, an Anaesthetist, an ENT specialist and a Dermatologist. The Project Director, a doctor also by training, does not handle clinical activities



but looks after the management of the project.

The paramedical staff include seven nurses and two technicians for the radiological department and the laboratory. The pharmacy is managed by a pharmacist. The rest are staff who play a supportive role. The organisation also has the advantage of access to secretarial assistance from the pharmaceutical company the Managing Trustee heads.

- 1.4 Despite the organisation's more recent involvement in the community, G6's approach is basically provider and facility centred. Therefore, it hopes to develop and head towards working in the area of cancer detection, setting up of a burns ward, purchasing an MMR machine and developing an expanded sphere of legitimacy for the Aquaculture Project. The last goal is perceived as important not merely due to its economic benefit to the community but to the enhanced purchasing capacity that would, in all possibility, increase people's utilisation of the hospital and its high tech facilities.

## 2. Tuberculosis Control Programme

- 2.1 APPROACH : The content of G6's involvement in Tuberculosis Control consists of medical interventions that do not quite measure up to the stature of a full-fledged programme. The involvement is clinical and targeted towards combatting the disease rather than treating the patient. Further, the approach adopted towards tuberculosis is in no way distinct from the approach towards other ailments.

The hospital accepts all patients suffering from tuberculosis regardless of the nature of their affliction, age and domicile. The absence of the physician has impacted upon tuberculosis-related work. As a result, a mere 16 people were identified and confirmed as tuberculosis patients between January and December 1992.

- 2.2 CASE FINDING : Case finding is totally passive. Patients approach the hospital either directly or with referral notes from a GP. Most patients are residents of the taluka in which the organisation is situated.

An initial medical examination precedes the decision about diagnostic tests. In case tuberculosis is suspected, patients are asked to get a sputum examination done at the government-run PHC in the neighbourhood. The necessity of this measure is brought on by the fact that the hospital is not in a position to perform this test (despite the availability of the necessary equipment) due to the absence of a trained person. X-Rays are taken, however, at the hospital and a sum of Rs.40 to 60 is charged. Subsidies are awarded following the instructions of the person-in-charge of the project.



Although the person-in-charge recognises the importance of sputum examination in the detection of tuberculosis, the utilisation of its results in diagnosing and confirming the presence of the disease is left to the discretion of the clinicians running the OPD.

- 2.3 TREATMENT : Confirmed patients are started on a regimen of 2HERZ/4HR. "Stubborn" or resistant cases are given an additional dose of Streptomycin or Thiacetazone. Alternately, the duration of their intensive phase may be extended to four months from the customary two.

Despite the cognisance of a treatment regimen for treating tuberculosis, a fair degree of flexibility is afforded to the clinicians. One of the MOs reported that he usually prescribed symptomatic treatment for patients with the attending symptoms (but without the corroborating investigations). If symptoms persisted, he said, he'd put them on a week long regimen of anti-TB drugs and observe signs of improvement.

Drugs are given to patients at the hospital's pharmacy at no cost. The organisation incurs a cost of Rs.2000 to 2500 per patient. Of the drugs normally dispensed, Ethambutol and Thiacetazone are provided to G6 by the government while drugs like Rifampicin are purchased in the open market (particularly the pharmaceutical company that the Trustee heads).

- 2.4 CASE HOLDING : G6 suffers from very poor case holding. The reason is both ideological as well as operational. Given its approach, the organisation does not conceptualise follow up as being any different from clinical follow up. Following this perspective and owing to the absence of a community presence, the organisation does not have the operational capacity to engage in case holding.

This observation is underpinned by a perusal of case papers of the 16 patients registered between January and December 1992 which indicate that most patients fail to return for drugs or a clinical follow up after their first visit.

- 2.5 RECORDS AND REPORTS : The only documentation of patients and the nature of their health complaints are contained in a register (maintained by the registration clerk) and case papers. These are retained for a year and then bundled and stashed away in a store room. The case papers of patients suffering from tuberculosis (during 1992) showed that some suffered from incomplete information and some case papers were untraceable. The hospital is obliged to submit reports to the government periodically. Despite this their record keeping about tuberculosis has not been developed into a systematic and systematised process.



## APPENDIX 1

### SOURCES OF INFORMATION FOR THE DIRECTORY OF NGOS IN GUJARAT

Academy of Development Sciences, Information Base on Voluntary Sector, Part I, published by Academy of Development Sciences, Kashele, (Maharashtra), 1980.

Association of Voluntary Organisations for Rural Development (AVARD), Directory of Voluntary Action, Prepared by AVARD, New Delhi, 1979.

Hirmani A.B. and Verma S.P., A Directory of Voluntary Health Organisations in India - 1989, Published by Central Health Education Bureau, DGHS, New Delhi, 1989.

Industrial Development Bank of India, Directory of Voluntary Organisations, published by IDBI, Bombay, 1987.

List of Members/Associates of Gujarat Voluntary Health Association (as of June 1992).

List of NGOs working in tuberculosis prepared by LUPIN Laboratories, Bombay.

List of NGOs working in tuberculosis prepared by various District Tuberculosis Officers in Gujarat.

List of organisations with TB beds prepared by Jt. Director (TB), Directorate of Health Services, Gandhinagar.

Mailing list of the Centre for Education and Documentation, Bombay.

Mailing list of the Foundation for Research in Community Health, Bombay.

Patel V.P., Voluntary Scene in Vadodara, published by United Way of Vadodara, Baroda, 1988.

Patel V.P., Public Trusts in Vadodara, published by United Way of Vadodara, Baroda, 1990.



## SOURCES OF INFORMATION FOR THE DIRECTORY OF NGOS IN MAHARASHTRA

Apte M and Kapadia K, Directory of Social Welfare Organisations : Maharashtra, Goa, Daman and Diu, prepared by Department of Family and Child Welfare, Tata Institute of Social Sciences, Bombay, 1988.

DISHA : List of Social Welfare Organisations, published by Nagarvasti Vikas Yojana, Pune Municipal Corporation; SNTD College of Home Science and Programme Officer UNICEF, Pune.

Hirmani A.B. and Verma S.P., A Directory of Voluntary Health Organisations in India - 1989, Published by Central Health Education Bureau, DGHS, New Delhi, 1989.

Industrial Development Bank of India, Directory of Voluntary Organisations, published by IDBI, Bombay, 1987.

Jesani A, Gupte M, Duggal R, NGOs in Rural Health Care. Volume One : An Overview, published by the Foundation for Research in Community Health, Bombay, 1989.

List of organisations with TB beds prepared by Jt. Director (TB), Directorate of Health Services, Bombay.

Mailing list of the Centre for Education and Documentation, Bombay.

Mailing list of the Foundation for Research in Community Health, Bombay.

Mailing list of the Society for Service to Voluntary Agencies, Bombay.

Personal Contacts.



## APPENDIX 2

### SPECIMEN OF REPLY-PAID POST CARDS SENT TO THE NGOS IN MAHARASTRA



THE FOUNDATION FOR RESEARCH IN COMMUNITY HEALTH

84-A, R. G. Thadani Marg, Worli, Bombay-400018, INDIA

Tel.: 4938601

Dr. N. H. Antia (Chairman & Director)

The Foundation for Research in Community Health, a voluntary organisation, is currently compiling a directory of NGOs working in the area of health and tuberculosis. The study is sponsored by the World Health Organisation. Since yours is an organisation that conducts health activities, we are interested in including a profile of your work in our directory. May we request you, therefore, to kindly fill in the attached postcard and mail it to us at soon as possible. We do look forward to hearing from you.

सामाजिक आरोग्य संशोधन संस्था, मुंबई ही एक स्वयंसेवी संस्था असून सध्या 'आरोग्य व क्षयरोग नियंत्रणाच्या क्षेत्रात कार्य करणाऱ्या इतर स्वयंसेवी संस्थांची माहिती संपादित करण्याचे काम करीत आहे. हे काम जागतिक आरोग्य संघटनेने अनुदानित केले आहे. आपली संस्था आरोग्याच्या क्षेत्रातही कार्यरत आहे, म्हणून आपल्या संस्थेच्या कार्याची माहिती आमच्या सूचीमध्ये अंतर्भूत करावयाची आहे. यासाठी सोबतच्या पोस्ट कार्डावर माहिती भरून आमच्याकडे लवकरात लवकर पाठवावी ही विनंती. आपल्या प्रतिसादाची अपेक्षा आहेच.

Dr. N. H. Antia  
Director

Name of the organisation :

संस्थेचे नाव

Address :

पत्ता

Taluka

तालुका

Pin Code

पिन कोड

District

जिल्हा

Telephone No.

टेलिफोन नं.

City

शहर

Contact Person :

संपर्कासाठी संस्थेच्या प्रतिनिधीचे नाव

Do you conduct any activity (diagnosis, treatment, medical/financial assistance, health education etc) related to TB?

क्षयरोगाशी निगडित आपण उपक्रम हाती घेतले आहेत का? उदा. (रोगनिदान, शुपुत्र, वैद्यकीय/आर्थिक सहाय्य, आरोग्य शिक्षण वगैरे)

Yes ( ) No ( )

होय ( ) नाही ( )







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## PROFILE OF THE ORGANIZATION

Kindly tick ☒ against the relevant responses wherever provided.

1. Name of the Organization \_\_\_\_\_

2. Address of the Organization's Headquarters \_\_\_\_\_

\_\_\_\_\_ Taluka \_\_\_\_\_ District \_\_\_\_\_

City \_\_\_\_\_ Pin Code \_\_\_\_\_ Telephone \_\_\_\_\_

3. Number of Field Centres / Sub-centres (if applicable)

3.1 Number in rural areas \_\_\_\_\_

3.2 Number in urban areas \_\_\_\_\_

4. Year of Establishment of the Organization \_\_\_\_\_

5. Registration of the Organization

Societies Registration Act

☐

Indian Public Trust Act

☐

Cooperative Societies Act

☐

Trade Union Act

☐

Any Other \_\_\_\_\_

☐

Not registered  
under any Act

☐

6. Sources of Funds (Kindly tick against the relevant responses)

Individual Donors

☐

Other Non-governmental Organizations

☐

Public sector corporate/  
industrial establishments

☐

Private sector corporate/  
industrial establishments

☐

State Government Grants

☐

Central Government Grants

☐

International Funding Agencies

☐

Any Other (specify below)

☐

7. Population Coverage

7.1 Size of the population covered in urban areas \_\_\_\_\_

7.2 Size of the population covered in rural areas \_\_\_\_\_

8. Target Groups (ie. social/economic group(s) for whom the organization carries out its activities)

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9. Broad Objectives of the Organization

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10. Activities of the Organization

10.1 Kindly enumerate the health & non-health activities or programmes that are undertaken by the organization at present

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10.2 Does the organization conduct any activity related to TB ?

Yes ☐ No ☐

10.3 Year of commencement of tuberculosis activities 

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11. Details about Staff of the Organization.

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11.1 Total Staff Strength : 

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11.2 Name & Designation of the Person-in-charge of the organization : 

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11.3 Categories of staff deployed for TB activities & Job Descriptions :

Category	Number	Job Descriptions

11.4 Number of staff members recruited only for TB activities :

A. Full time \_\_\_\_\_ B. Part time \_\_\_\_\_

12. Tuberculosis Related Activities undertaken by the Organization

12.1 Listed below are a number of tuberculosis-related activities. Kindly indicate which of these are being undertaken by your organization at present. Kindly identify & tick against the relevant responses.

A. REGULAR HEALTH EDUCATION ACTIVITIES ABOUT TUBERCULOSIS:

Conducted ☐ Not Conducted ☐

If conducted, kindly indicate the media used:

Films/Slide Shows ☐ Puppets ☐ Posters/Flash Cards ☐  
One-to-one talks ☐ Group Discussions ☐ Lectures ☐  
Booklets/Pamphlets ☐ Others \_\_\_\_\_

B. ACTIVITIES TO IDENTIFY TUBERCULOSIS PATIENTS:

Conducted ☐ Not Conducted ☐

If conducted, kindly indicate what these are.

Routine Clinics ☐ Special TB camps ☐ Household Surveys ☐  
Others \_\_\_\_\_

C MEDICAL EXAMINATION OF PEOPLE IN CLOSE CONTACT WITH PATIENTS:

Conducted ☐ Not Conducted ☐

If conducted, kindly indicate who these 'close contacts' are:

People in the patients' family ☐ People in the patients' workplace ☐

D. PERFORMANCE/RECOMMENDATION OF DIAGNOSTIC TESTS:

Yes ☐ No ☐

(i) If yes, kindly indicate the tests required by the organization for diagnosing TB and the place where these are performed. Kindly tick in the relevant boxes.

Diagnostic Tests	Conducted by the Organization	Patients referred to Govt.Labs	Patients referred to Private Labs	Patients sent elsewhere
X-Ray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blood Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sputum Examination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sputum Culture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(ii) Kindly indicate the charging practices for diagnostic tests. Kindly tick in the relevant boxes.

Diagnostic Tests	Charging Practice for Tests			Number of patients offered tests free	
	NO CHARGE	SUBSIDIZED	FULL CHARGE	ALL PATIENTS	SOME PATIENTS
X-Ray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blood Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sputum Exam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sputum Culture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



E. TREATMENT OF PATIENTS SUFFERING FROM TUBERCULOSIS:

Yes ☐

No ☐

(i) If patients are treated, kindly indicate how this is done.

Organization gives medicine ☐

Organization prescribes medicines & patients buy them elsewhere ☐

Additional comments \_\_\_\_\_

(ii) Cost incurred by patients for medicines:

Full cost ☐

Part Cost ☐

No Cost ☐

(iii) Number of patients incurring no cost:

All diagnosed patients ☐

Some diagnosed patients ☐

F. FOLLOW-UP OF TUBERCULOSIS PATIENTS UNDER TREATMENT:

Conducted ☐

Not conducted ☐

(i) If conducted, kindly indicate how this is done:

Education of patients & families ☐

Reminders by post ☐

Visits by social workers ☐

Monetary & other incentives to patients (eg.money,food) ☐

Other Measures \_\_\_\_\_

(ii) Persons conducting follow-up activities:

Staff of the organization ☐

Doctors referring TB patients to the organization ☐

Others \_\_\_\_\_

G. HOSPITALIZATION OF TUBERCULOSIS PATIENTS:

Yes ☐

No ☐

(i) Does the organization have beds for TB patients?

Yes ☐

No ☐

(ii) Number of beds (if applicable) \_\_\_\_\_

(iii) Number of TB patients admitted during the last month \_\_\_\_\_

(iv) If the organization does not have beds, where are patients referred?

Government hospitals ☐

Private hospitals ☐

Hospitals run by NGOs ☐

H. MONETARY & OTHER ASSISTANCE TO TB PATIENTS: Yes ☐ No ☐

(i) If yes, kindly indicate the nature of this assistance :

Distribution of Nutritional Supplements	<input type="checkbox"/>	Distribution of tonics	<input type="checkbox"/>
Financial support for diagnositic tests	<input type="checkbox"/>	Financial Support for medicines	<input type="checkbox"/>
Financial support for travel to health centres	<input type="checkbox"/>	Other assistance (kindly specify below)	<input type="checkbox"/>

(ii) Number of patients given assistance :

All patients	<input type="checkbox"/>	Some patients	<input type="checkbox"/>
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12.2 Kindly summarize the strategy adopted by the organization in TB work.

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12.3 In your opinion, what innovations have been made by the organization in its tuberculosis work?

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13. Treatment Regimens and Drug Supply

13.1 Kindly indicate the treatment regimens followed by the organization.

Drugs Prescribed	Dosage	Duration
Streptomycin Injections		
Rifampicin		
Isonex		
Pyrazinamide		
Ethanbutol		
Others		

13.2 Total duration of treatment for adult TB patients \_\_\_\_\_

13.3 Sources of anti-TB drugs supply (Kindly mention all the sources).

Government ☐ Drug Companies ☐ Other NGOs ☐

Individual Durations ☐ Other sources \_\_\_\_\_ ☐

14. Records and Record-Keeping

14.1 Records maintained by the organization.

Clinical Records ☐ Statistical Records ☐ Others ☐

14.2 In case records are maintained, kindly fill in details about the last reporting year in the spaces provided below:

A. Number of new TB patients on treatment \_\_\_\_\_

B. Total number of TB patients on the register \_\_\_\_\_

C. Average number of TB patients collecting drugs per month \_\_\_\_\_

D. Percentage of TB patients collecting drugs regularly \_\_\_\_\_ %

15. Support from the Government

15.1 Presence of Support from the Government in TB activities:

Support extended by the govt and accepted ☐ Support extended by govt and not accepted ☐

Support not extended by the govt ☐ Any other \_\_\_\_\_ ☐

Additional comments \_\_\_\_\_

15.2 Kindly indicate the nature of this support (if applicable).

## Supply of Drugs



### Deputation of government health workers



## Grants

The diagram shows a single cell with a nucleus. Inside the nucleus is a smaller, darker nucleolus. The cell is bounded by a cell membrane. The diagram is labeled with 'a' and 'b'.

Supply of treatment cards, identification slips etc

Figure 1 shows a schematic diagram of a rectangular domain with a central square hole. The domain is divided into four quadrants by a vertical line and a horizontal line. The central square hole is also divided into four quadrants. The top-left quadrant of the hole is labeled 'a', the top-right 'b', the bottom-left 'c', and the bottom-right 'd'. The top-left quadrant of the outer domain is labeled '1', the top-right '2', the bottom-left '3', and the bottom-right '4'. The central square hole is labeled '5'.

### Other support

## 16. Identification of other NGOs Conducting Tuberculosis Activities

16.1 If you are aware of other organizations that conduct TB activities in your state, kindly mention their names and addresses below.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

1. The first part of the document is a list of names and their corresponding addresses. The names are listed in the first column, and the addresses are listed in the second column. The names are: John Doe, Jane Smith, and Bob Johnson. The addresses are: 123 Main St, 456 Elm St, and 789 Oak St.

2. The second part of the document is a table with two columns. The first column is labeled "Name" and the second column is labeled "Address". The table contains the following data:

Name	Address
John Doe	123 Main St
Jane Smith	456 Elm St
Bob Johnson	789 Oak St

3. The third part of the document is a list of names and their corresponding addresses. The names are listed in the first column, and the addresses are listed in the second column. The names are: John Doe, Jane Smith, and Bob Johnson. The addresses are: 123 Main St, 456 Elm St, and 789 Oak St.



## **APPENDIX 4**

### **IN-DEPTH STUDY OF NGOS : INTENT AND RESEARCH QUESTIONS**

#### **A. Objectives of the In-depth Study**

1. To obtain specific information under some or all of the heads of information in the mailed questionnaire.
2. To get qualitative insights on aspects related to the organisation, functioning and effectiveness of TB activities/programmes run by the NGO.
3. To back up qualitative data with statistics and records wherever possible.

#### **B. Research Areas and Questions**

##### **1. GEOGRAPHICAL LOCATION AND SPREAD**

- 1.1 For institutional based NGOs, location of the main office in terms of development status of the taluka for rural NGO (general opinion). If the NGO has field areas/outreach centres, location of the Project Area.

Other agencies providing health/medical care in the vicinity of the Headquarters and Field Centres.

- 1.2 Our definition of a field centre is a permanent location from which outreach activities of the NGO are conducted. The field centre may or may not have a building. What is the NGO's definition of a field centre ? How does it differ from our understanding? If the NGO differentiates between Field Centres and Sub Centres, what is the basis of this differentiation?

If field centres exist, how many exist and where are they located? ie. same taluka/suburb, across different talukas/suburbs, distance from the HQ, mapping of HQs and FCs, accessibility (motorable roads from FCs and HQ, availability of transport facilities. etc.) in case of community based NGO (rural and urban).

- 1.3 If population are defined by the NGO, size/location of the population (rural and urban), radius of influence.

##### **2. FUNDING**

- 2.1 Ordering of funders depending on the quantum of funds received from them. If independent sources of funds for TB-related services, list sources and prioritise in case of multiple sources. Conditionalities imposed by funders for TB



activities. If NGOs generate income, sources of incomes for health and social activities (wherever applicable) and for TB (in particular).

- 2.2 Proportion of funds allocated for health in the overall budget, proportion of health funds allocated for TB.

### 3. OBJECTIVES AND ACTIVITIES

Objectives related to the permanence of their presence. Rationale and ultimate goal to be achieved in health and TB control. If multiple activities are conducted, priorities awarded to health activities / programmes (and TB) and non-health activities / programmes. Links between activities (are some viewed as means to a larger goal?). Distribution of activities in terms of the sites at which they are performed : institution-based and community-based.

### 4. STAFF

- 4.1 Number of volunteers, honorary staff, paid staff (full-time and part-time). Number of staff for general activities of the NGO, number working exclusively for TB.
- 4.2 Job description, division of labour and priorities to activities in the context of health and TB programmes (in case NGO conducts TB control in a horizontal fashion), supervision and guidance of field level staff. Categories of staff deputed at the headquarters and field centres.
- 4.3 Qualification, eligibility criteria, years of experience (if easily available). If training is imparted by NGO, content, duration and pedagogy of training and re-training courses (wherever applicable). Salary structure (wherever forthcoming).
- 4.4 Incentives offered by NGO to staff, problems faced by them in the NGO (in general) and in the delivery of TB services (in particular), job satisfaction experienced, turnover of staff.

### 5. ORGANISATION AND FUNCTIONING OF TB PROGRAMMES/ACTIVITIES

- 5.1 Extent of involvement of the NGO in TB-related services in terms of activities undertaken.
- 5.2 System followed by NGOs in its TB programme/activities in case finding, treatment, case holding (whatever applicable). Patient cycle/movement at various stages, time spent per visit, frequency of meeting with doctors. Professional competence at the phases of identification, detection, treatment and follow-up in TB programmes.

Details about clinics (number of days in a week, location, timings, activities conducted). Observation of one clinic in terms of doctors' interaction with new patients and overall



organisation (procedures adopted for sputum examination - spot/overnight, X-Ray and other tests, drug distribution, etc.)

- 5.3 Facilities available for TB-related services : facilities for diagnostic tests (number, quality and use), beds in case of hospitalisation of cases, sources and adequacy of drug supply (suppliers, drug purchased, frequency of purchase, indenting procedures). Quality of sputum and sputum examination (wherever applicable). Professional competence of person conducting diagnostic tests and persons reading results.
- 5.4 Regimens followed (wherever applicable) for positive and negative cases. Whether regimens are modified with sputum results.
- 5.5 Charging practices for services offered by the NGO. Costs incurred by patients for the completion of an entire cycle with the NGO.

## 6. EFFECTIVENESS OF TB PROGRAMME/ACTIVITIES

- 6.1 Effectiveness with respect to case finding and case holding from records of last 3-6 months (wherever available).
  - (a) Number of patients attending general OPD (if applicable) and number attending TB OPD.
  - (b) Number of symptomatics referred for diagnostic tests.
  - (c) Number subjected to sputum exam and X-Ray.
  - (d) Number found smear positive and X-Ray positive.
  - (e) Number started on treatment.
  - (f) Whether Rx cards/case papers maintained and retained at clinic(s).
  - (g) Details of entry in Rx cards/case papers.
  - (h) Cohort analysis : percentage collecting, completing and getting cured (if possible).
  - (i) Relapses.

## 7. COLLABORATION

- 7.1 Do NGOs want to enter with collaborative efforts with the government? If yes, why? If yes, what should this consist of? If no, why not?
- 7.2 What do NGOs understand by collaboration? What is the current level of interaction between the NGO and the government, how satisfactory has it been and what problems have there been with it?
- 7.3 Do NGOs favour a system of regulation or the enforcement of minimum standards in the delivery of TB-related services? If yes, what should this consist of? If no, why not?









